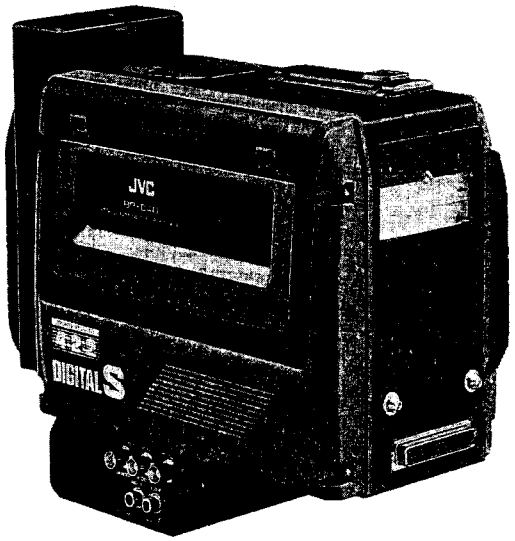
JVC

SERVICE MANUAL

DIGITAL S DOCKABLE RECORDER

BR-D40U/BR-D40E



DIGITAL S

No. 9341
May 1997

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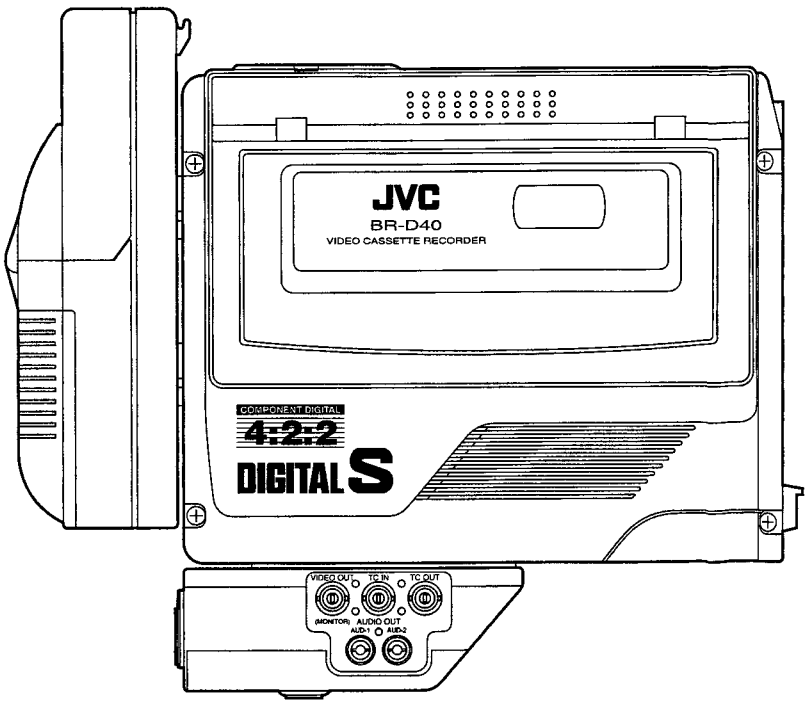
VIDEO CASSETTE RECORDER

BR-D40U/BR-D40E

INSTRUCTIONS

DIGITAL S

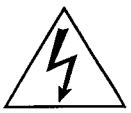


SL96070: U-ver
SL96071: E-ver

SAFETY PRECAUTIONS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO PREVENT FIREOR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
This unit should be used with 12V DC only.
CAUTION:
To prevent electric shocks and fire hazards, do NOT use any other power source.

NOTE:
The rating plate (serial number plate) is on the bottom of the unit.

This Class B digital apparatus meets all requirements of the canadian Interference-Causing Equipment Regulations.

INFORMATION
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmfull interfrence to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

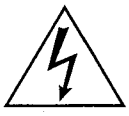
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION
CHANGES OR MODIFICATIONS NOT APPROVED BY JVC COULD VOID USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS : (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION

ATTENTION
RISQUE D'ELECTROCAUTION
NE PAS OUVRIR

ATTENTION : POUR EVITER TOUT RISQUE D'ELECTROCAUTION
NE PAS OUVRIR LE BOITIER.
AUCUNE PIECE INTERIEURE N'EST A
REGLER PAR L'UTILISATEUR.
SE REFERER A UN AGENT QUALIFE EN CAS DE PROBLEME.



Le symbole de l'éclair à l'intérieur d'un triangle équilatéralest destiné à alerter l'utilisateur sur la présence d'une "tension dangereuse" non isolée dans le boîtier du produit. Catte tension est suffisante pour provoquer l'électrocution de personnes.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est destiné à alerter l'utilisateur sur la présence d'opérations d'entretién importantes au sujet desquelles des renseignements se trrouvent dans le manuel d'instructions.

* Ces symboles ne sont utilisés qu'aux Etats-Unis.

AVERTISSEMENT :
POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A L'HUMIDITE OU A LA PLUIE.
Ce magnétoscope ne doit être utilisé que sur du courant direct en 12V.
ATTENTION :
Afin d'eviter tout resque d'incendie ou d'électrocution, ne pas utillser d'autres sources d'alimentation électrique.

REMARQUE :
La plaque d'identification (numéro de série) se trouve sur le panneau arrière de l'appareil.

Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilleur du Canada.

WARNING ON LITHIUM BATTERY
The battery used in this device may present a fire or chemicalburn hazard if mistreated. Do not recharge, disassemble, heat avobe 100°C (212°F) or incinerate.
Replace battery with Matsushita Electric CR2032, use of another battery may present a risk of fire or explosion.

- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of in fire.

CAUTION
To prevent electric shock, do not open the cabinet. No user servicable parts inside. Refer servicing to qualified service personnel.

WARNING :
It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast, or artistic work embodied therein.

Thank you for purchasing the BR-D40 video cassette recorder.

When this unit is used in a stand-alone configuration, it can play videotapes but cannot record them. To accomplish recording with this unit, it should be integrated in a unitary connection with a professional type video camera (JVC KY-19, KY-27 series, KY-D29, etc.).

DIGITAL S

This unit is a DIGITAL S format video cassette recorder. Video cassette tapes which are not marked DIGITAL S cannot be used with this VCR.

MAIN FEATURES

- High picture quality thanks to the DIGITAL S format
  The 4:2:2 component digital processing of the format ensures recording and playback with high picture quality.
- High sound quality thanks to the 2-channel PCM audio
  High-quality digital audio with 16-bit, 48 kHz sampling is provided for 2 channels.
- Designed for direct, unitary connection with the camera
  This unit can form a camcorder system by being combined with a JVC professional video camera such as the KY-19, KY-27 series and KY-D29 for an excellent footing for newsgathering and other recording tasks.
- Concentrated LCD display (with back light)
  The concentrated LCD panel shows the time code and CTL count, tape remaining time, remaining battery power, audio levels, setup menus, hour meter data and a variety of warning indications. It is back-lighted to facilitate viewing under low light conditions.
- Time code reader/generator
  The built-in time code reader/generator can be used to record SMPTE(NTSC)/EBU(PAL) time code and user's bits.
- Time code input/output connectors for slave lock capability
  This unit can be slave-locked to an external time code generator which is connected to the time code input.
  The data in the built-in time code generator is output from the time code output terminal.
- Balanced audio input (camera/microphone/line switchable)
  Highly reliable XLR connectors are provided for audio input. Noise-proof balanced audio input ensures an enhanced sound quality.
- AEF (Automatic Edit Function) enables neat switching between scenes.
- Date/time data recording
  Apart from the SMPTE(NTSC)/EBU(PAL) time code area, another time code area is provided for the recording of data on the date and time of the day.
- Built-in loudspeaker for audio checking
  The input audio can be monitored in record or EE mode and the reproduced audio can be monitored in play mode.
  The loudspeaker also outputs an alarm tone in case an abnormal condition occurs with the VCR.

The following symptoms will appear when the tapes recorded on other units (including BR -D40) are recorded or played back on this machine.

- The transient section between scenes recorded on other units may appear disturbed.
- Digital noise appears during playback because of tracking errors.

CONTENTS

Install a lithium battery (provided) before use. See page 34 for information about how to install it.

- We cannot assume the liabilities which may derive from the impossibilities of normal recording or playback in case of failure with this VCR or the video cassette in use.

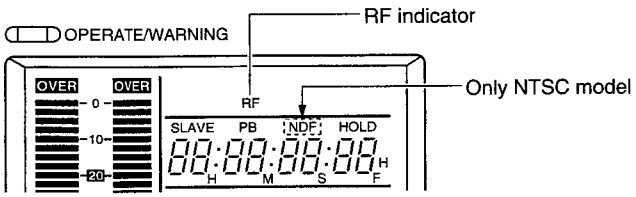
INTRODUCTION

ROUTINE AND PERIODICAL MAINTENANCE

This VCR incorporates precision mechanical parts, which will collect dirt, wear out and deteriorate as the VCR is used. On the other hand, when the VCR has been used for a long period, the heads, drums and tape transport mechanisms also collect dirt deposited on them. Also, dust which penetrates the inside of the VCR specially during outdoor use will promote the wear and deterioration of mechanical parts by causing poor contact between tape and heads or failing to maintain the video and audio quality at high levels.
To prevent wear and deterioration, clean the mechanical parts using a head cleaning tape as routine maintenance. But cleaning with a head cleaning tape alone is not enough for cleaning the entire tape transport mechanism. it is also recommended to apply periodical maintenance (inspection) to prevent troubles which may be caused by the sudden occurrence of failure.
As the replacement, adjustment and servicing of parts require advanced skill and equipment, please consult the person in charge of professional video equipment at your nearest JVC-authorized service agent.

Head Cleaning

- To maintain high video and audio quality, clean the heads by using the special head cleaning tape about every 20 hours.
- Use the optional DCL-5 as the head cleaning tape.
- Do not use head cleaning tapes other than specified. Read the instructions of the head cleaning tape for its operating procedure and precautions.
- When dust is deposited on the video head of the VCR, the RF indicator lights up on the display during the back-space operation in record-pause mode. The indicator does not light up during recording.



Periodical Maintenance

Contents : Check or replace the following mechanical parts according to the running time.

Running Time	500H	1000 H	1500H	2000H
Drum ass'y (including heads)	●	●	●	●
Head cleaner	●	●	●	●
Tape guides & rollers	○	○	○	●
Fixed heads	○	○	☆	●
Belts & pinch rollers	○	●	○	●
Drive parts	○	○	☆	●

- The drum assembly (including heads) and the head cleaner should be replaced every 500 hours.

○: Clean, check and adjust.
☆: Clean and check. Replace as required.
●: Replace.

- The maintenance contents may be variable depending on the operating environment and method. Therefore, the above data should be considered as a reference.

Time management

The running time of the VCR can be confirmed with the hour meter display (which shows the drum running time). For details, see "HOUR METER DISPLAY" on page 34.

For consultations related to the maintenance programming or cost, please contact the person in charge of professional video equipment at your nearest JVC-authorized service agent.

PRECAUTIONS FOR PROPER USE OF THE VCR

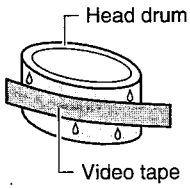
Handling and Storage Precautions

- Avoid using or placing the VCR in places;
  - subject to extreme heat or cold;
  - subject to strong magnetic or electromagnetic field (Particularly, avoid using a transceiver within a distance of 2 meters from this VCR.
  - with excessive dirt or dust;
  - with high humidity or moisture;
  - subject to smoke or vapor such as near a cooking stove;
  - subject to strong vibrations or on an unstable surface.
  - Also do not leave the VCR for long hours in a parked car under direct sunlight or near room heating equipment.
- Protect the VCR from being splashed with water (especially when shooting in the rain).
- Protect the VCR against penetration of dust when using it in a place subject to sandy dust.
- Use the VCR in an upright position. If placed on its side, heat release efficiency will deteriorate, adversely affecting the tape transport.
- Do not drop or hit it against a hard object. (Special care is required to avoid shocks during transportation.)
- Remove the video cassette before transporting the VCR.
- Do not insert an object other than a video cassette in the cassette insertion slot. Be sure to close the cassette cover when the VCR is not to be used for a long period.
- To avoid condensation inside the VCR, do not transport it between places with a large difference in temperature.
- Do not set the POWER switch to OFF or remove the power cable during recording or playback. Otherwise the tape may be damaged.
- When the VCR is not in use, be sure to set the POWER switch in order to OFF to save power consumption.

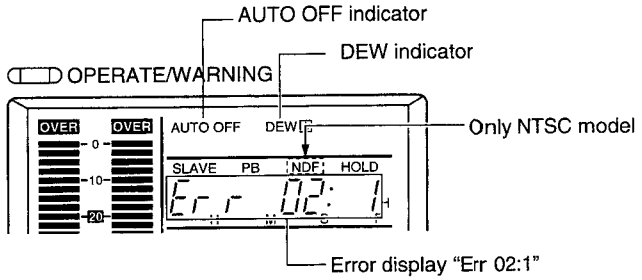
NOTES : Use the optional DCL-5 as the head cleaning tape.

Condensation

- When the VCR which has been cooled down completely in a cold place is carried to a warm place, the moisture contained in the warm air may attach to the head drum or tape guides and be cooled into water droplets. This phenomenon is referred to as condensation (dewing). When this occurs in a VCR, the head drum and tape guides are covered with droplets allowing the tape to be stuck to them, leading to tape damage.
- Condensation occurs in the following cases:
  - When the VCR is suddenly moved from a cold place to a warm place.
  - When the room heater has just started or when the VCR is exposed directly to cold air from the air conditioner.
  - When the VCR is placed in a very humid place.



- When condensation occurs with this VCR, the DEW and the AUTO OFF indicator on the display lights up, the error code "Err 02:1" appears on the counter display (see page 32).
  To assist this, leave the VCR with the power ON and wait until the error code "Err 02:1" and the DEW indicator disappear from the display.



VIDEO CASSETTE TO BE USED

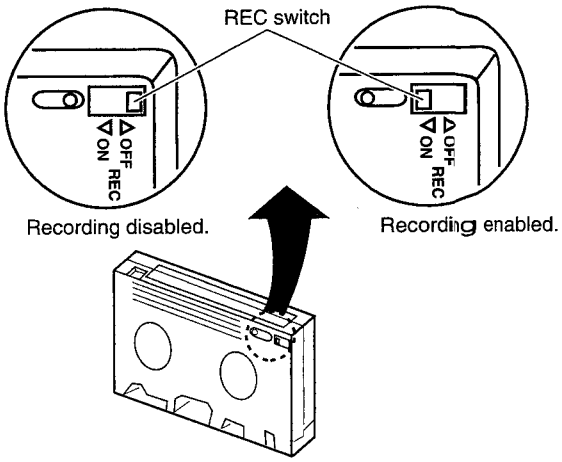
- Use video cassette tapes marked with DIGITAL S for this VCR. Recording and playback time of the usable video cassette models is given below.

Video Cassette Tape	Record/Play Time
DS-104	Approx. 104 min.
DS-64	Approx. 64 min.
DS-34	Approx. 34 min.
DS-10	Approx. 10 min.

- Video cassettes marked with S-VHS or VHS cannot be used with this VCR. If you insert an S-VHS or a VHS cassette in the VCR, it will be ejected automatically.
- Video cassettes cannot be used upside down.
- Avoid storing a video cassette with unevenly wound tape, as this may damage the tape. Rewind it to the beginning before placing a cassette into storage.
- After a video cassette tape has been used repeatedly, it becomes unable to maintain full performance due to an increase in noise caused by dropouts, etc. Do not continue to use a dirty or damaged tape, as this will reduce the rotary head life.

- The video cassette tape marked DIGITAL S is provided with a REC switch for use in preventing accidental erasure.
  - Slide the REC switch to OFF to protect the precious recording in the tape from being overwritten.
  - To record on the tape, slide the REC switch to ON.

REC switch



BATTERY PACK TO BE USED

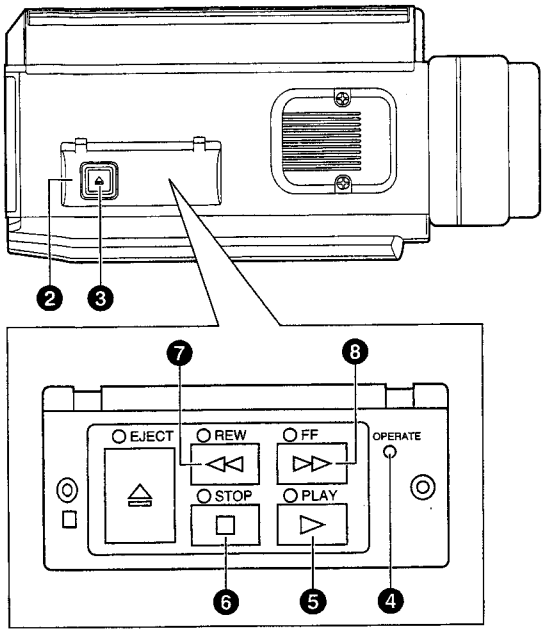
This VCR can use any of the following battery packs.

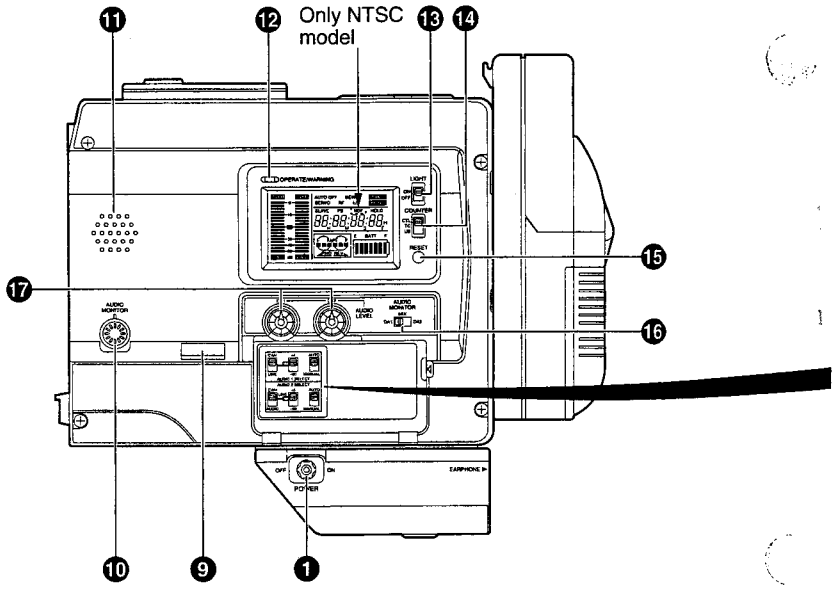
- JVC battery pack: NB-G1U
- Flat Shape Type battery pack
- Anton-Bauer battery pack : Trimpack 13/14 Series, Magnum 13/14 Series, Compack 13/14 Series.

To display the remaining battery power accurately, set "BATT. TYPE SELECT" in setup menu Group 4 according to the type of the battery pack in use. (See page 21)

- An Anton-Bauer battery pack cannot be attached to this VCR directly.
  An additional battery holder is required.
  - Battery holder: Anton-Bauer model QRQ27
    See page 17 for the battery holder attaching method.

CONTROLS, INDICATORS AND CONNECTIONS





❶ POWER switch
Turns the main power supply ON and OFF. Set to OFF when neither the VCR nor the camera is used. When set to OFF, all the VCR and the camera operations are disabled.

❷ Operation cover
When this cover is opened after setting the POWER switch to ON, the VCR enters OPERATE ON mode, in which the OPERATE indicator lights in green, the LCD display appears and the VCR is ready to be operated. Once the VCR enters OPERATE ON mode, it is maintained even after the operation cover is closed later. If a cassette tape has been inserted when the VCR enters OPERATE ON mode, the cassette tape remains in stop mode.
If the VCR is in OPERATE OFF mode even when the operation cover is open, the VCR can be put to OPERATE ON mode by pressing the OPERATE switch ❹.

❸ EJECT button
Press to eject the cassette tape. This button can be operated in any mode. It can be pressed even when the operation cover is closed. The LED indicator above the EJECT button lights up during the ejection operation.

❹ OPERATE switch
This switch is interlocked with the operation cover. If the VCR is in OPERATE OFF mode even when the operation cover is open, the VCR can be put to OPERATE ON mode by pressing then releasing this switch.

❺ PLAY button
Press to start playback. In play mode, the VCR outputs the video and audio signals of normal playback and the LED indicator above the PLAY button lights.
* If the auto tracking is active at the moment the play mode starts, the playback video will be interfered with digital noise. The audio output during this period is the linear track audio.
* This button is not effective if pressed in the REC or REC PAUSE mode. Press the STOP button before pressing this button.

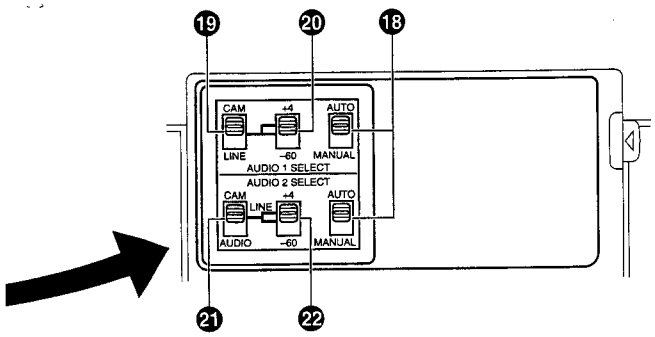
❻ STOP button
Press to enter stop mode by stopping the recording and the tape transport. The drum keeps rotating in stop mode. However, when stop mode has continued for about 30 minutes, the VCR enters tape protect mode, in which the drum stops rotation and the tape tensioner is released. It takes more time than usual to enter the record or play mode from the tape protect mode. The LED indicator above the STOP button lights in stop and tape protect modes.
- The time until tape protect mode is initiated can be set to 1, 5 or 30 minutes with setup menu item "LONG PAUSE TIME SELECT".

❼ REW button
Press to rewind tape.
- Pressing the button in stop or fast forward mode initiates rewind mode. The LED indicator above the REW button lights in this mode.
- Pressing the button during playback or forward search initiates reverse search at about 6 times the normal play speed. The LED indicators above the PLAY and REW buttons light during reverse search.
  The search audio recorded in the linear track is reproduced during reverse search.

❽ FF button
Press to fast forward tape.
- Pressing the button in stop or rewind mode initiates fast forward mode. The LED indicator above the FF button lights in this mode.
- Pressing the button during playback or reverse search initiates forward search at about 6 times the normal play speed. The LED indicators above the PLAY and FF buttons light during forward search.
  The search audio recorded in the linear track is reproduced during forward search.

❾ Lithium Battery Installation Case
Install a lithium battery in this case. The battery is used for the backup of the time code and the date/time data. The VCR is delivered without the battery installed. Install the lithium battery provided (CR2032). See page 34 for information about how to install it.

[AUDIO 1/2 switch setting block]



⑩ AUDIO MONITOR control

Adjusts the volume of the monitoring loudspeaker and earphone. The audio is muted when this control is set to the minimum position.
The volume of the alarm tones can be adjusted with the ALARM control.

⑪ Monitoring loudspeaker

Enables EE monitoring of the audio signal selected with the AUDIO MONITOR switch in record, record-pause or stop mode. It also reproduces the audio recorded on tape when the VCR is in play mode. The loudspeaker volume can be adjusted with the AUDIO MONITOR control.
The audio from the loudspeaker is defeated when an earphone is plugged into the EARPHONE jack. The warning alarm tones are also output through this loudspeaker.
For details, see pages 31 and 32.

⑫ OPERATE WARNING indicator

- This LED indicator lights in OPERATE ON mode. It lights in green while the VCR is operating normally.
- It lights or blinks in red in the case of a warning condition related to the remaining tape time, remaining battery power or other abnormal condition in the VCR.

For details, see pages 31 and 32.

⑬ LIGHT switch

Turns the display back light ON or OFF.
ON: The display is back-lighted.
OFF: The display is not back-lighted.
(Keep this switch to OFF during battery operation of the VCR or when it is required to reduce the power consumption for a certain reason.)

⑭ COUNTER switch

Selects the contents displayed on the LCD counter.

CTL : Set to this position to display the CTL counter.
TC : Set to this position to display time codes or when presetting the time code.
UB : Set to this position to display the user's bits of time codes or presetting the user's bit.

- Time codes or user's bits can be displayed provided that the TC DISP switch in the time code/setup menu setting block is set to TC. If it is set to SUB TC, the date and time data is displayed in its place.

⑮ RESET button

- Press to reset the CTL counter value.
- Pressing the button during time code or user's bit presetting operation resets the time code or user's bit data to "00:00:00:00".

⑯ AUDIO MONITOR switch

Selects the audio channel to be output at the loudspeaker and earphone jack.

DA1 : Set to this position to monitor the Digital Audio 1 channel.
MIX : Set to this position to monitor the mixed sound of the Digital Audio 1 and 2 channels.
DA2 : Set to this position to monitor the Digital Audio 2 channel.

⑰ AUDIO LEVEL control

Adjusts the audio recording level of the Digital Audio 1 or 2 channel when the AUTO/MANUAL switch ⑱ in the AUDIO 1/2 switch setting block is set to MANUAL.
Adjust so that the sound level meter peak does not exceed –5dB when large sounds are input.

* The DA-2 AUDIO LEVEL control does not take effect when the AUDIO2 INPUT SELECT switch ㉑ is set to AUDIO1.

⑱ AUTO/MANUAL switches

Select the method for adjusting the recording level of the Digital Audio 1 and 2 channels.

AUTO : The audio recording level is held at the reference level even when sounds greater than the reference input level are input.
The recording level does not increase when the input level is low.
MANUAL : The audio recording level of each channel can be adjusted with the AUDIO LEVEL control.

⑲ AUDIO 1 INPUT SELECT switch

Selects the input signal to be recorded in the Digital Audio 1 channel.

CAM : Receives the audio signal of the camera microphone through the camera connector (50-pin).
LINE : Receives the audio signal input through the AUDIO 1 input connector. The reference audio input level can be selected with the AUDIO 1 INPUT LEVEL switch ⑳.

⑳ AUDIO 1 INPUT LEVEL switch

Selects the line input level of the Audio 1 channel between +4 dB and –60 dB.

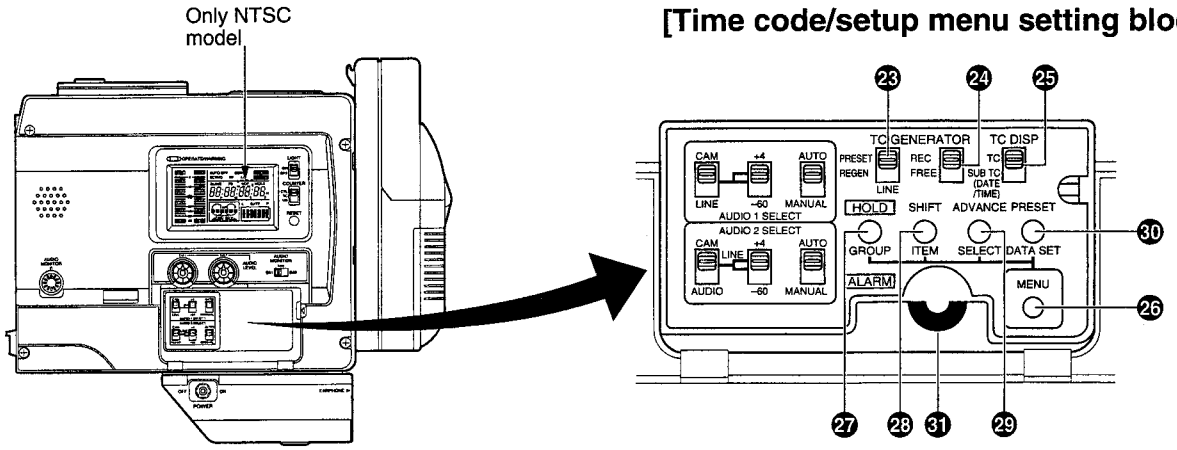
㉑ AUDIO 2 INPUT SELECT switch

Selects the input signal to be recorded in the Digital Audio 2 channel.

CAM : Receives the audio signal of the camera microphone through the camera connector (50-pin). Set to this position when the camera uses a stereo microphone.
• The audio is not input if this position is used with a monaural camera microphone.
LINE : Receives the audio signal input through the AUDIO 2 input connector. The reference audio input level can be selected with the AUDIO 2 INPUT LEVEL switch ㉑.
AUDIO 1 : Receives the audio signal selected with the AUDIO 1 INPUT SELECT switch also in the Digital Audio 2 channel. Set to this position when the camera uses a monaural microphone.

㉒ AUDIO 2 INPUT LEVEL switch

Selects the line input level of the Audio 2 channel between +4 dB and –60 dB.



Time code generator setting switches

㉓ PRESET/REGEN switch

Selects the time code generator mode between PRESET and REGEN.

PRESET : Preset mode. Set to this position when newly presetting and recording the time code. Also use this position when the camera is to be slave-locked to an external time code generator connected to the TC IN connector.

REGEN : Regeneration mode, in which the VCR reads existing time codes on the tape and records time codes by succeeding them. Set to this position when you want to connect additional time codes to a tape in which time codes have already been recorded as far as the middle.

㉔ REC/FREE run switch

Selects the time code running mode while the time code generator is in preset mode. This switch is not effective in the REGEN mode.

REC : The time code runs only during recording. This position allows you to record continual time codes when recording scenes one after another.

FREE : The time code runs permanently. Set to this position when the VCR is slave-locked with an external time code generator.

- If this position is used when recording scenes one after another, the time codes become discontinuous at the change points between scenes.

㉕ TC DISP switch

When the COUNTER switch ⑭ is set to TC or UB, it selects the type of time code to be displayed on the counter display.

TC : Ordinary time codes or user's bits are displayed.

SUB TC : Data in another time code area (sub-time code area) is displayed. This VCR records the date and time data in this area.
For details, see "SUB-TIME CODE" on page 29.

㉖ MENU button

Press to initiate setup menu mode.
In setup menu mode, the MENU indicator lights on the display and the counter display transforms to the menu display.
Pressing this button in setup menu mode returns to the normal mode.

㉗ HOLD/GROUP button

- Press when presetting the time code or user's bit. The presently displayed data is held (the HOLD indicator lights on the display) and the leftmost digit of the counter blinks. Pressing this button during time code or user's bit presetting cancels the operation and recalls the previous display contents.
- In setup menu mode, this button is used to select the menu group.

㉘ SHIFT/ITEM button

- During time code or user's bit presetting, press to select the digit to be set. Each press of the button shifts the digit to be set (which blinks) to the right.
- In setup menu mode, this button is used to select the menu item.

㉙ ADVANCE/SELECT button

- During time code or user's bit presetting, press to select the value of the digit to be set. Each press of the button increases the number by 1.
- In setup menu mode, this button is used to select the value of a menu item.

㉚ PRESET/DATA SET button

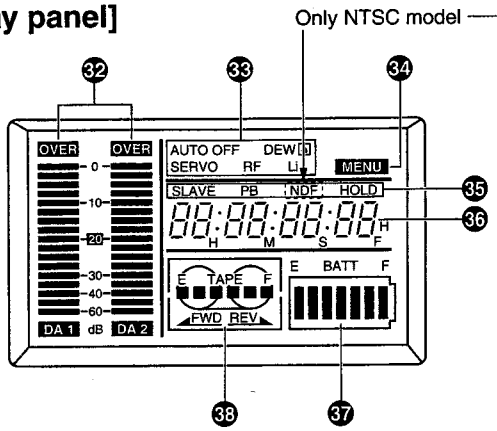
- During time code or user's bit presetting, press to save the set value in the preset memory. The set time code or user's bit will be preset in the time code generator.
- In setup menu mode, this button is used to save the menu item setting the data in the memory.

- For details of the time code or user's bit presetting, see page 27.
- For details on the setup menus, see page 20.
- The buttons from ㉗ to ㉚ above are also used in setting the date and time of SUB TC data. For the date and time setting, see page 30.

㉛ ALARM control

Turn to control the volume of the alarm tone which is output from the monitoring loudspeaker or earphone in case of a warning or other abnormal condition occurring with the VCR. Turn this control as counterclockwise to dawn the volume. Setting this control to the minimum position mutes the alarm tone.

[Display panel]



㉜ DA 1/DA 2 audio level meters

These are the signal level meters for the Audio 1 and 2 channels. They show the input audio signal levels when the VCR is in EE or record mode. When it is in play mode, they show the audio reproduction level of the audio recorded on the tape. The peak levels are held for about 2 seconds.

㉝ Warning indicators

■ AUTO OFF indicator
Lights when a non-recoverable error (e.g. tape winding error, drum stopped, etc.) occurs with the VCR. This indicator also lights if condensation occurs.
For details, see "TROUBLES WITH ERROR CODE OUTPUTS" on page 32.

■ DEW indicator
Lights when condensation (dewing) occurs on the drum or other mechanism in the VCR.
The VCR reject all operations while this indicator is lit.
When the condensation has disappeared, the indicator turns off and the VCR accepts operations again.

■ SERVO indicator
Lights when the drum servo is troubled during recording to indicate that normal recording is not being made.

■ RF indicator
Lights when the video head is clogged.
The head clog is detected during back-space between different scenes. Note that it is not detected during recording.

- Should this indicator light up, clean the head using the special head cleaning tape.
  See the manual for the head cleaning tape (DCL-5) which is specifically made for this unit.

■ Li indicator
This is the lithium battery indicator which lights when the lithium battery which backs up data of the built-in time code generator is nearly exhausted and indicate the necessity of replacement.
See page 34 for information about how to replace lithium batteries.

㉞ MENU indicator

Lights up when the VCR is put to setup menu mode by pressing the MENU button.

㉟ Time code-related indicators

■ SLAVE indicator
This is the slave lock indicator which lights when the built-in time code generator is slave-locked (synchronized) with the LTC time code signal input at the TC IN connector.
For the slave lock of the time code, see page 28.

■ PB indicator
This is the time code playback indicator which lights when the time code is in playback mode.

■ NDF indicator (Only NTSC model)
This is the non-drop frame indicator which lights when the framing mode of the built-in time code generator or the reproduced time code in play mode is in the non-drop frame mode.
This indicator does not light in drop frame mode.
- It lights permanently when the CTL counter is in use.

■ HOLD indicator
Lights when the time code generator display is held by pressing the HOLD button in the time code setting block.
The time code or user's bit can be preset while this indicator is lit.

㊱ Counter display

- Usually, this section shows the data of the CTL counter, time code or user's bit. The display mode can be selected with the COUNTER switch.

- When the COUNTER switch is set to TC or UB:
  The date and time data can be displayed by setting the TC DISP switch ㉕ to SUB TC.

- This section shows the setup menu data when the VCR is set to the setup menu mode by pressing the MENU button.
  The setup menu also includes the hourmeter (drum usage).
- This section shows an error code when an abnormal condition occurs with the VCR.
  For details on the counter display, see page 12.

㊲ Remaining battery power indicator

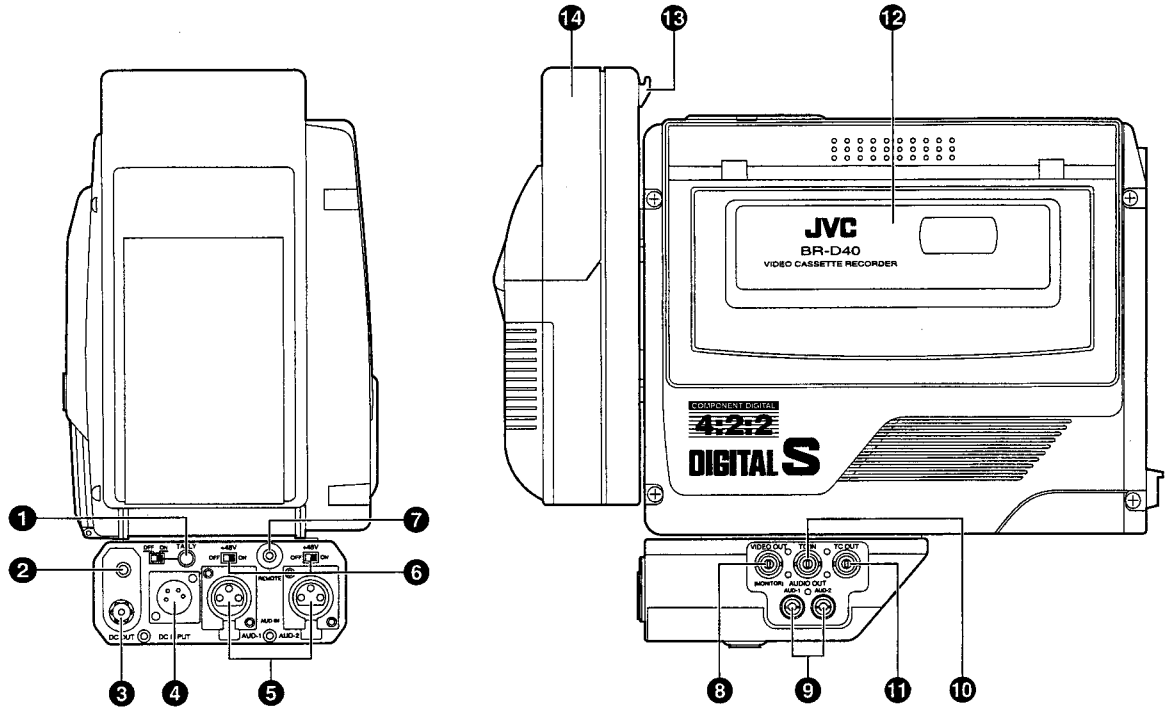
Shows the remaining battery power with a 7-dot segment bar display.
- To display the remaining battery power accurately, set the setup menu item "BATT. TYPE SELECT" according to the type of the battery pack in use.
  For details on the remaining battery power display, see page 12.

㊳ Cassette/tape direction/remaining tape time indicators

- Cassette tape : Lights when the VCR is loaded with a cassette tape. Blinks during ejection or tape loading.
- Tape direction : One of the indicators lights according to the tape transport direction.
  FWD REV
- Remaining tape : The remaining tape situation is shown with a 6-dot segment bar display.
  E TAPE F

For details on the remaining tape display, see page 12.

CONTROLS, INDICATORS AND CONNECTIONS



❶ TALLY lamp/switch

- When the TALLY switch is set to ON, the tally lamp lights when the VCR is in record mode. It blinks during transition to record mode.
- The tally lamp also blinks when an abnormal condition occurs with the VCR.
  For details, see pages 31 and 32.
- When the TALLY switch is set to OFF, the tally lamp does not light or blink even in the above cases.

❷ EARPHONE jack

This is a stereo mini-jack for use in connecting an audio monitoring earphone. Plug in a 3.5 mm dia. earphone or headphone plug.
The earphone can also be used to monitor alarm tones depending on situations.
The sound from the monitoring loudspeaker is interrupted when an earphone is connected here.

❸ DC OUT connector

Power output connector to a wireless microphone transmitter, etc. The supply voltage is identical to the voltage supplied to the VCR (DC 12V ⎓ max. 0.1 A).

❹ DC INPUT connector (XLR 4-pin)

Power input connector for 12 V DC. Connect with the optional AA-G10 battery charger.
When a cable is connected here, the power supply from the battery pack is interrupted and the source is switched to the power supplied through this connector.

❺ AUD-1 AUD-2 IN connectors (XLR 3-pin)

The Audio 1 and 2 channel input connectors function as the line inputs for connecting external audio equipment including a microphone. Set the AUDIO INPUT SELECT switch and AUDIO INPUT LEVEL switch according to the connected equipment.

❻ REMOTE connector

Connect with equipment which can remote control the start and stop of recording (e.g. Sony RM-81).

❼ +48V switch

Switches the +48 V power for a phantom microphone ON/OFF.

❽ VIDEO OUT connector (BNC)

Composite video output connector.
It outputs the video signal from the camera in record or EE mode.
It outputs the video signal reproduced from the tape in play mode.

- No compensation is made for the setup level.
- The setup menus, time codes and date/time data are not output.

❾ AUDIO OUT connectors (RCA)

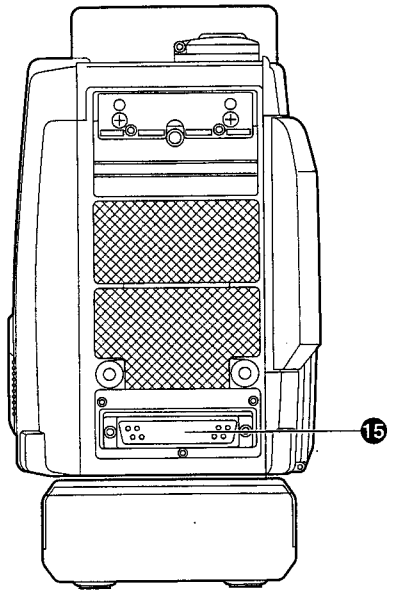
Analog audio output connectors, which output the audio signal from the camera in record or EE mode and the audio signal reproduced from the tape in play mode.
The alarm tone is not output.

❿ TC IN connector (BNC)

Input connector for the SMPTE(NTSC)/EBU(PAL)-standard LTC signal. The built-in time code generator can be slave-locked with the input time codes.
For the slave lock of time code, see page 28.

⓫ TC OUT connector (BNC)

Output connector for the LTC signal from the built-in time code generator.
The time code recorded on the tape is not output in play mode.



⑫ Cassette cover

When the VCR is in OPERATE ON mode, pressing the EJECT button on the top of the VCR opens this cover so that a cassette tape can be inserted or removed from the VCR. The cover can be locked automatically by pushing and closing it.

- To prevent penetration of foreign objects in the VCR, do not leave the VCR with the cassette cover open.

⑬ Battery case release button

Push to unlock the battery case cover. The battery case cover should be opened while pushing this button.

⑭ Battery case

Load a Flat Shape Type battery pack or the JVC NB-G1U battery pack.
For details, see "ATTACHING THE BATTERY PACK" on page 16.

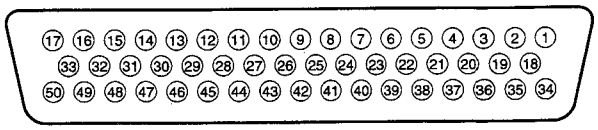
⑮ Camera connector (D-sub 50-pin)

For connection with the 50-pin connector of the camera to be connected.
The power supplied to the camera is 12 V at max. 1.7 A (max. 20 W).

- It is not possible to connect the RM-G410 editing control unit to this VCR.

CONNECTOR PIN LAYOUTS

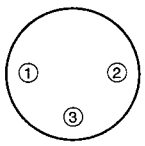
Camera Connector (50-pin)



No.	Signal	No.	Signal
1	+5V	33	GND
5	POWER GND	35	GND
6	POWER GND	36	B-Y IN
13	VTR ID OUT	38	PB(L) OUT
15	MIC1 GND	39	POWER SUPPLY (12V)
16	MIC1 (C)	40	POWER SUPPLY (12V)
17	MIC1 (H)	41	Y IN
18	RETURN VIDEO OUT	42	GND
22	MIC2 GND	43	COMPOSITE VIDEO IN
23	MIC2 (C)	45	CAMERA ID IN
24	MIC2 (H)	46	S-VHS(L) OUT
25	SAVE CONTROL IN	47	SERIAL DATA IN
26	RETURN SW IN	48	VTR STATUS OUT
27	VTR START/STOP	49	REC TALLY OUT
29	R-Y IN	50	WARNING SIG OUT
32	RETURN AUDIO OUT		

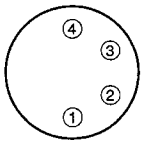
Other pins are not used by this VCR.

AUD-1/AUD-2 IN Connectors (XLR 3-pin)



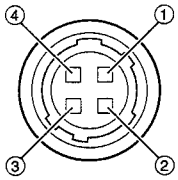
NO.	Signal
①	GND
②	HOT
③	COLD

DC INPUT Connector (XLR 4-pin)



NO.	Signal
①	GND
②	—
③	—
④	+12V

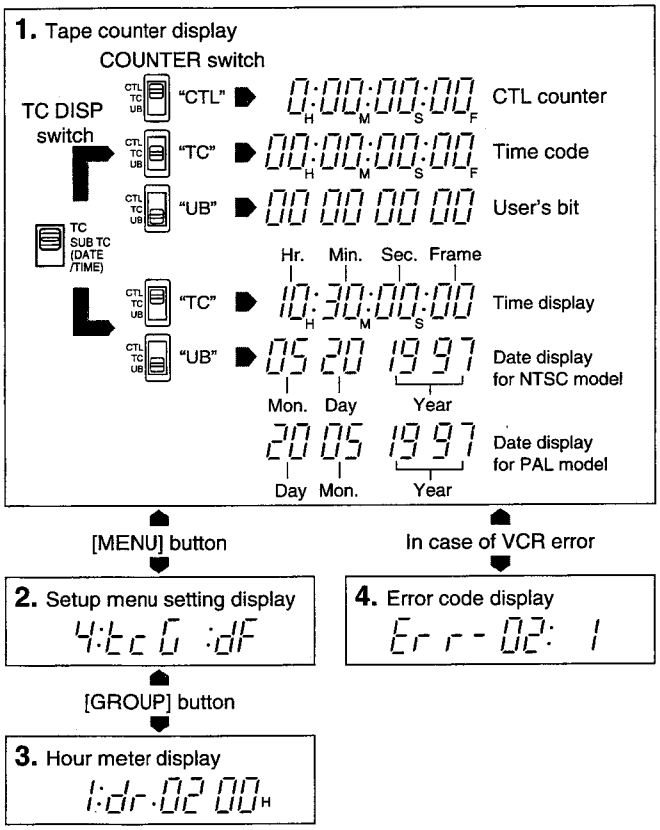
DC OUTPUT Connector



(Surface profile)

NO.	Signal
①	GND
②	—
③	—
④	+12V (Power through)

COUNTER DISPLAY CONTENTS



Remaining Tape Time Display

The 6-dot segment bar display shows the remaining tape time in record and play modes. The lighted segment bars decrease as the remaining tape decreases.
The reference tape time is as shown below.
(■ : Lighted. ⁘ : blinked.

E TAPE F ■■■■■■	Near the beginning of tape
E TAPE ■■■■■■	More than 25 minutes of remaining tape. ("F" extinguished.)
E TAPE ■■■□□□	10 to 15 minutes of remaining tape. (This display represents the beginning of the tape in the case of DS-10.)
E TAPE ■□□□□□	2 to 5 minutes of remaining tape.
E TAPE ■□□□□□	Less than 2 minutes of remaining tape. (The last dot and "TAPE" blink.)
E TAPE □□□□□□	End of tape. ("TAPE" and "E" blink.)

- When the tape has ended completely, a warning is provided by an alarm tone, etc.
- The remaining tape information is not displayed when no cassette tape is loaded or during the remaining tape calculation which takes place immediately after a cassette tape is inserted.

The counter display shows the following 4 types of information.

1. Tape counter display

The counter display usually functions as a tape counter (hour, minute, second, frame). It can be switched to a CTL counter, time code or user's bit display by using the COUNTER switch. (Provided that the TC DISP switch is set to TC)

- CTL counter : Time between -9 hr. 59 min. 59 sec. 29(NTSC)/24(PAL) frames and 9 hr. 59 min. 59 sec. 29(NTSC)/24(PAL) frames can be displayed. The run mode is fixed at the non-drop frame mode.
- Time code : Time between 0 hour and 23 hr. 59 min. 59 sec. 29(NTSC)/24(PAL) frames can be displayed.
- User's bit : Hexadecimal number from 00 to FF is displayed in 8 digits.

By setting the TC DISP switch under a cover on the side panel to SUB TC, the time and date data can be displayed here.
- When the COUNTER switch is set to
  TC : The time (hour, minute, second, frame) is displayed.
  UB : The date (month, day, year) is displayed.

- Press the MENU button to switch to the setup menu setting display.

2. Setup menu setting display

This display is used when setting the setup menus.
After having set the setup menus, press the MENU button to return to the tape counter display.
For details, see "SETUP MENUS" on page 20.

3. Hour meter display

The hour meter is displayed in the setup menu Group **1**.
The hour meter data refers to the head drum running time.

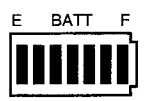
4. Error code display

The error code is displayed automatically in case an abnormal condition occurs with the VCR.
For details of error codes, see "TROUBLES WITH ERROR CODE OUTPUTS" on page 32.

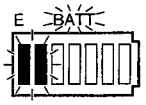
Remaining Battery Power Display

The 7-dot segment bar display shows the remaining battery power. The lighted segment bars decrease as the remaining battery power decreases.

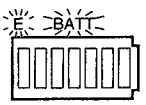
- To display the remaining battery power accurately, set the setup menu item "BATT. TYPE SELECT" according to the type of the battery pack in use.
- The menu has been set for a Flat Shape Type battery pack (12V) or the JVC NB-G1U when the VCR left the factory.



All segment bars light when a fully-charged battery pack is attached.



The last 2 segment bars and "BATT" start to blink when the battery is nearly exhausted. Replace with a fully-charged battery pack.

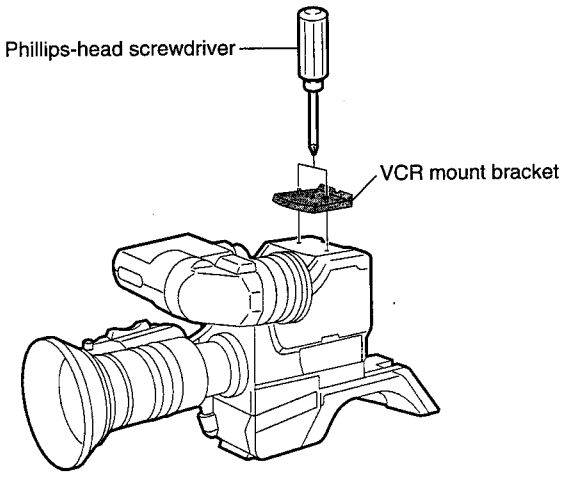


When the battery capacity has run out, "E" and "BATT" blink and the VCR stops operation automatically. It will enter the OPERATE OFF mode.

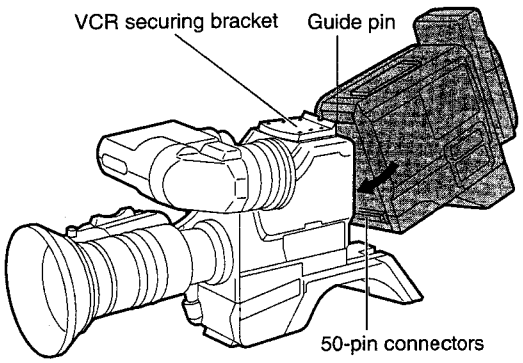
UNITARY CONNECTION WITH CAMERA

1. Separate the camera adapter from the camera and attach the shoulder pad.

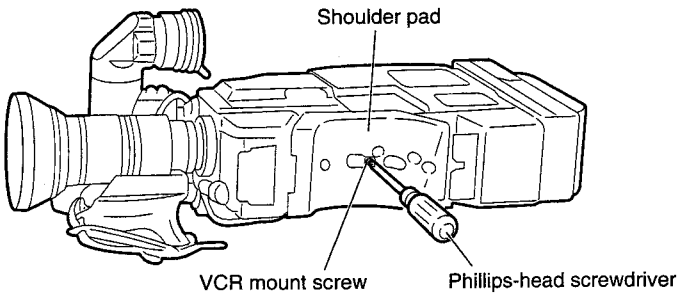
- With the KY-27 or KY-D29 camera, the VCR mount bracket has been removed before attaching the camera adapter. Attach the removed VCR mount bracket again before connecting the camera with this VCR.



2. Connect the 50-pin connectors of the BR-D40 and camera by aligning and fitting the guide pin of the BR-D40 into the V-groove on the VCR mount bracket of the camera.

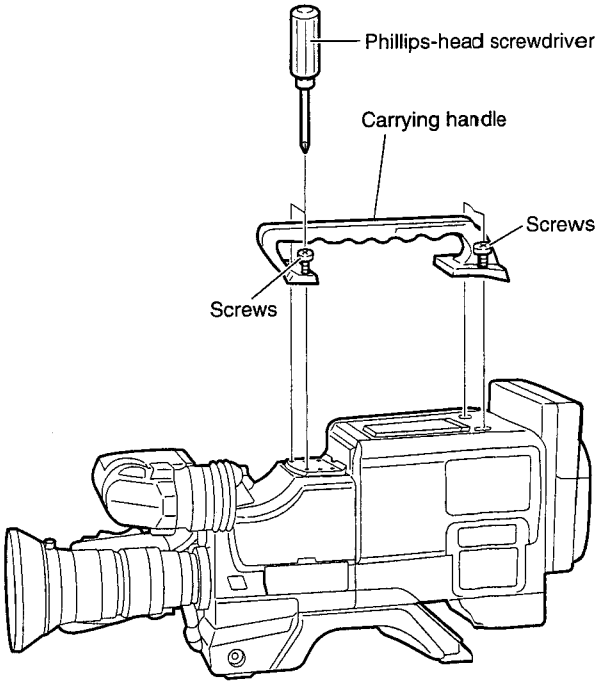


3. Insert a Phillips-head screwdriver through the hole on the camera shoulder pad and fasten the VCR to the camera by turning the VCR mount screw.



* Use M4 screws as VCR mounting screws. Ensure that the installation length to the VCR is no longer than 4 mm.
* For the JVC camera, use the screws supplied with the camera.

4. Fasten the provided carrying handle with 4 screws as shown below.

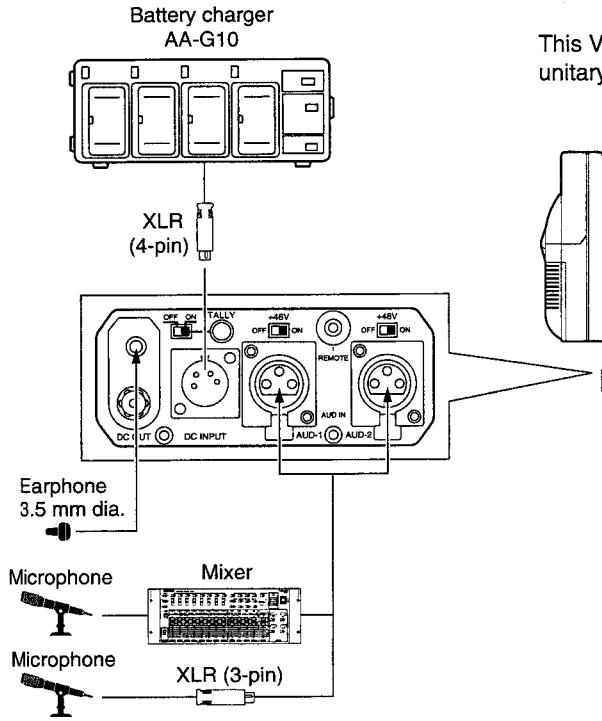


CAUTION

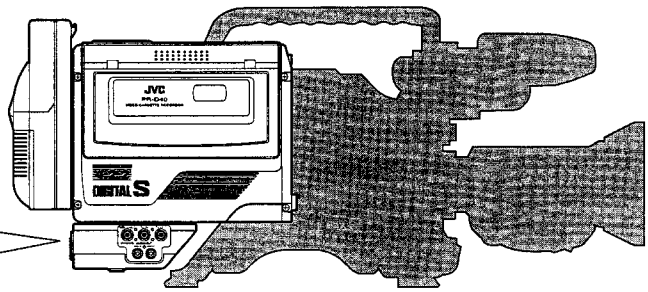
Tighten the screws securely. Otherwise the VCR may drop from the camera during use.

SYSTEM CONNECTIONS

For Recording

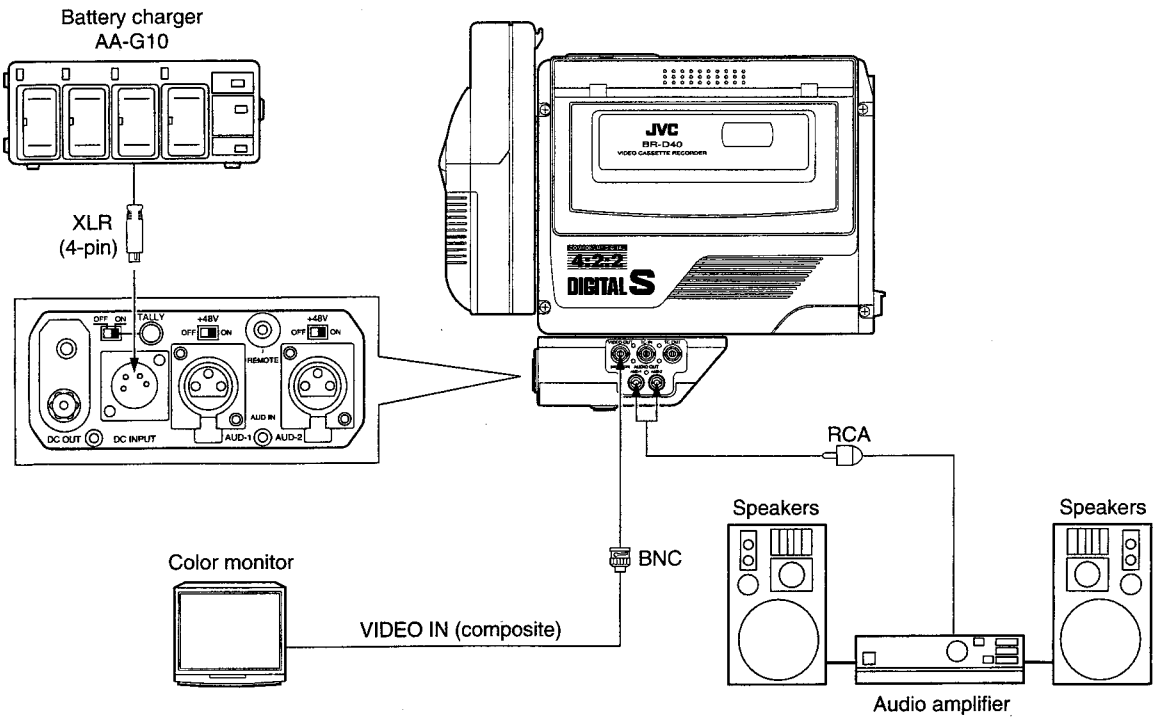


This VCR can record signals only when it is combined with a camera in unitary connection.



- Be sure to match the impedance of the camera and camera microphone. If the level is different, the audio signal may be recorded at a low level.

For Playback



POWER SUPPLY

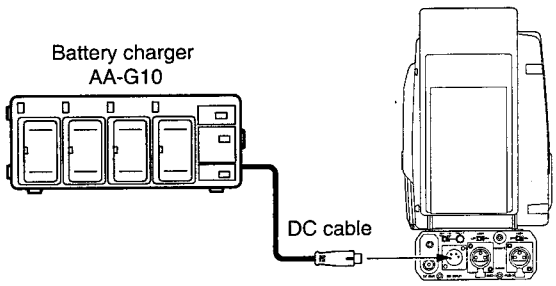
The power of the VCR can be supplied from the following sources.

1. **AC operation**
   Use the JVC AA-G10 battery charger (max. rated output 4 A, 12 V DC) as the AC power supply.
2. **Battery operation**
   Usable battery packs
   - JVC battery pack : NB-G1U
   - Flat Shape Type battery pack
   - Anton-Bauer battery pack
     : Trimpack 13/14 Series, Magnum 13/14 Series, Compack 13/14 Series.

- When using an AA-P250 as the AC power source, use a camera whose power consumption is less than 13W.
- Do not use any power source with large fluctuations in the power source voltage as with ripples or other noise.

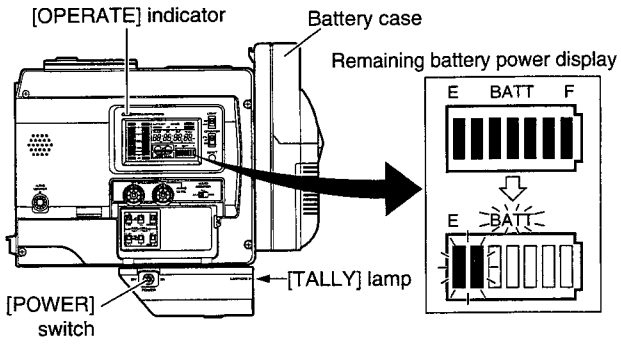
- An Anton-Bauer battery pack cannot be attached to this VCR directly.
  An additional battery holder is required.
- Battery holder: Anton-Bauer model QRQ27
  See page 17 for the battery holder attaching method.

AC OPERATION USING THE AA-G10 BATTERY CHARGER



1. After making sure that the power switches of the VCR and of the AA-G10 are set to OFF, connect the DC cable from the AA-G10 to the DC INPUT connector of the VCR as shown in the illustration.
2. Push the VCR switch of the AA-G10 to ON then press its POWER button to ON.
3. Press the POWER switch of the VCR to ON.
   Now power is supplied to the VCR as well as the camera.
   - To use the VCR, put it in OPERATE ON mode (see page 18).
   - For details, read the instruction manual of the AA-G10.

BATTERY OPERATION



1. Attach a fully-charged NB-G1U or other Flat Shape Type battery pack onto the battery case.
   For the attaching method, see page 16.
   - An Anton-Bauer battery pack cannot be attached to the battery case of this VCR.
2. Set the POWER switch of the VCR to ON.
   Now power is supplied to the VCR and camera.
   - To use the VCR, put it in OPERATE ON mode (see page 18).

- When the DC cable is connected to the DC INPUT connector, the power supply from the battery pack is interrupted and the power starts to be supplied through the DC INPUT connector.

Recharging the NB-G1U Battery Pack

The NB-G1U battery pack should be recharged using the AA-G10 or AA-P250 battery charger. The AA-G10 battery charger can recharge up to four NB-G1U units successively.

Recharging procedure (for AA-G10)

Battery packs are recharged in sequence by spending 60 to 90 minutes for each. Finally, they are topped up simultaneously by normal recharging for 1 hour.

- Be careful against over-charging. The battery pack should be discharged completely before being recharged.
  If a battery pack is recharged before it has been completely discharged, the available operating time may be reduced.

Battery Caution

- Do not leave a battery pack under high temperatures (e.g. in a car under direct sunlight). Otherwise battery fluid leakage or shortening of the service life may result.
- When a battery pack is used in a cold environment (below 10°C), the operating time is reduced even with a fully-charged battery pack.
- If the available operating time with a fully-charged battery pack decreases considerably, it is a sign that the service life of the battery pack is almost ending. Purchase a new battery pack in this case.

■ Remaining battery power display

The remaining battery power can be confirmed on the LCD (see page12).

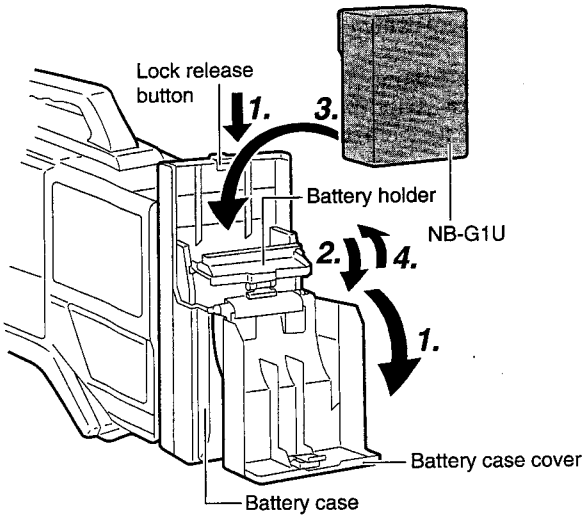
- When the battery power is nearly exhausted, the last 2 segment bars and the "BATT" indicator of the remaining battery power display blinks, and the OPERATE indicator and TALLY lamp blink in red.
  When the above blinking starts, replace the battery pack with a fully-charged battery pack as soon as possible.
- If the same battery pack continues to be used after the blinking has started, the VCR eventually stops operation and enters the OPERATE OFF mode.

- To display the remaining battery power accurately, set the setup menu item "BATT. TYPE SELECT" according to the type of the battery pack in use. This item has been set at the factory to either the NB-G1U or the Flat Shape Types (12VDC).

- When the VCR is used in an unitary connection with the KY-27 camera, about 30 minutes of battery operation is possible using a NB-G1U battery pack (at an average current of 2.2 A/hr). However, this period is merely a reference value and variable depending on the age, running time and the recharging condition of the battery pack. For example, the available operating time may be reduced when zooming is used frequently.

ATTACHING THE BATTERY PACK

Attaching the NB-G1U Battery Pack



1. Open the battery case cover while pushing the lock release button.

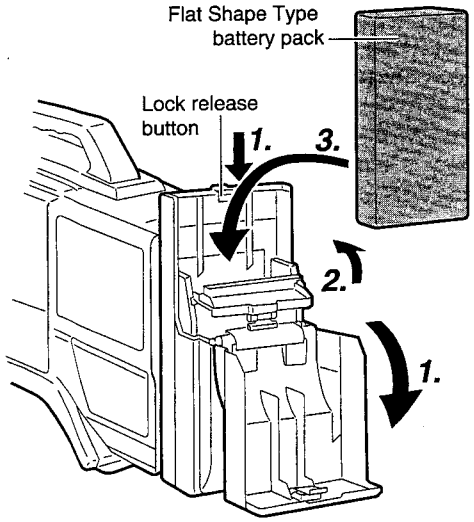
2. Tilt the battery holder in the arrow-indicated direction.

3. Insert the battery pack into the battery case with its electrodes facing the VCR.

4. Close the battery holder in the arrow-indicated direction and close the battery case cover.

- To avoid damage to the battery holder, be sure to close the battery holder before closing the battery case cover.
- Turn the power of both the VCR and camera OFF before replacing the battery pack.

Attaching a Flat Shape Type Battery Pack



1. Open the battery case cover while pushing the lock release button.

2. Tilt the battery holder in the arrow-indicated direction.

3. Insert the battery pack into the battery case with its electrodes facing the VCR.

4. Close the battery case cover.

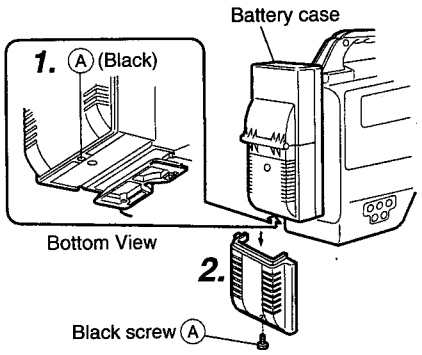
- Turn the power of both the VCR and camera OFF before replacing the battery pack.

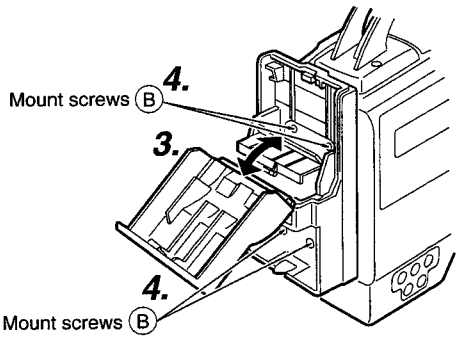
ATTACHING AN ANTON-BAUER BATTERY PACK

When an Anton-Bauer battery pack (Trimpack 13/14, Magnum 13/14, Compack 13/14 Series) is used, it is required to remove the battery case from the VCR and attach the Anton-Bauer battery holder in place. Use the battery holder model described below.

• Battery holder : Anton-Bauer model QRQ27

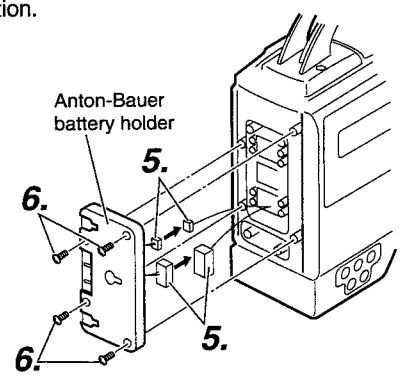
Removing the Battery case from VCR and Attaching Anton-Bauer Battery Holder In Place





1. Remove the black screw Ⓐ from the bottom of the battery case.

2. Remove the lower half of the battery case cover in the downward direction.



3. Open the battery cover and battery holder.

4. Remove the 4 mount screws Ⓑ, disconnect the connectors between the VCR and the battery cover, and separate the battery case from the VCR.

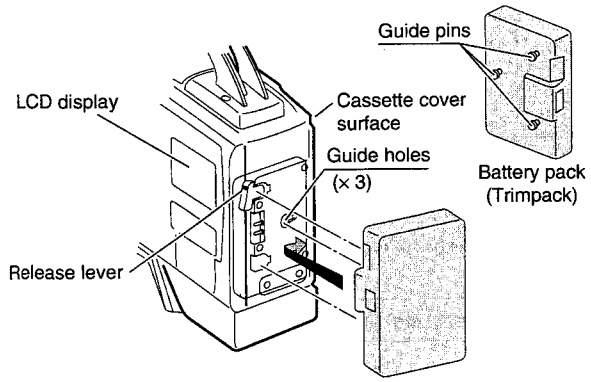
Attaching the Anton-Bauer battery holder

5. Connect the connectors from the VCR and those of the battery holder (connect 2 pairs of connectors including the large and small ones).

6. Secure the battery holder onto the VCR using the 4 mount screws supplied with the battery holder.

• Be careful not to pinch the connector wires; otherwise a malfunction may result.

Attaching/Detaching Anton-Bauer Battery Pack



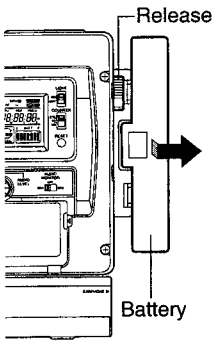
Attaching the battery pack

1. Align the 3 guide pins of the battery pack with the guide holes on the battery holder, and push straight to insert the battery pack. The battery cannot be attached properly if the guide pins are not inserted straight.

2. Slide the battery pack toward the side panel where the cassette cover is located until it clicks.

→ Now the battery pack has been attached.

Detaching the battery pack



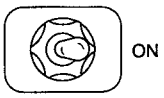
■ While pushing and holding the release lever, slide the battery pack toward the side panel where the LCD display is located, then pull the battery pack outward to remove.

PREPARATION

SWITCHING OPERATE ON/OFF

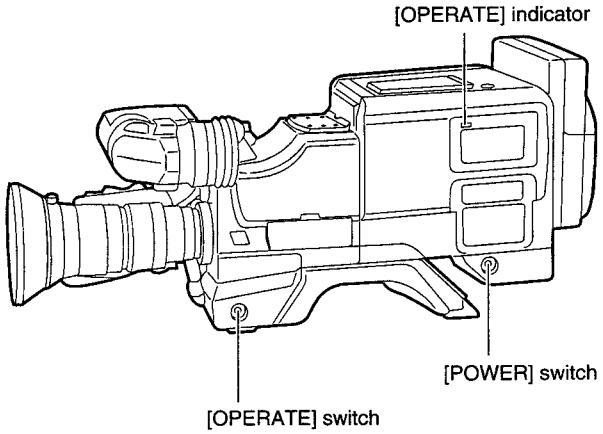
The VCR operations are possible only when it is in OPERATE ON mode.
The VCR can be put to OPERATE ON mode in two ways.

1. Set the POWER switch of the VCR to ON.



Switching OPERATE ON from the camera

2. Set the Operate switch of the camera to "VTR STBY".
→ The VCR enters OPERATE ON mode and the OPERATE indicator lights in green.



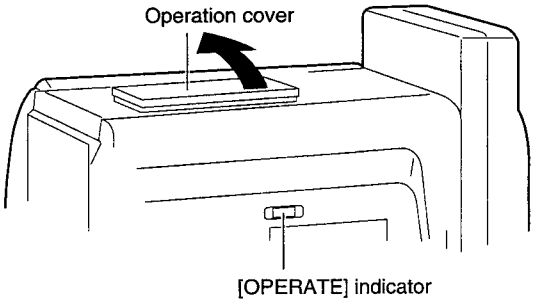
- If a recordable cassette tape has been loaded in the VCR, the VCR enters the record-pause mode (provided that the REC switch on the cassette tape is set to ON).

To return to OPERATE OFF mode

■ Set the OPERATE switch of the camera to "VTR SAVE".
→ The VCR enters OPERATE OFF mode and the OPERATE indicator turns off.

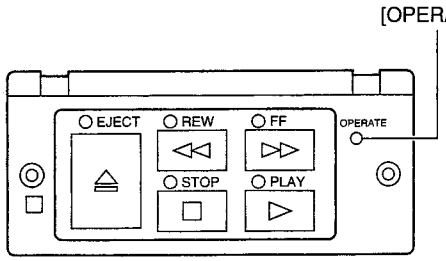
Switching OPERATE ON from the VCR

2. Open the operation cover.
→ The VCR enters OPERATE ON mode and the OPERATE indicator lights in green.



- Switching the power ON with the operation cover open will activate the OPERATE ON mode.

■ Press the OPERATE switch if the VCR does not enter OPERATE ON mode even when the operation cover is opened.



3. The VCR remains in OPERATE ON mode even after the operation cover is closed.

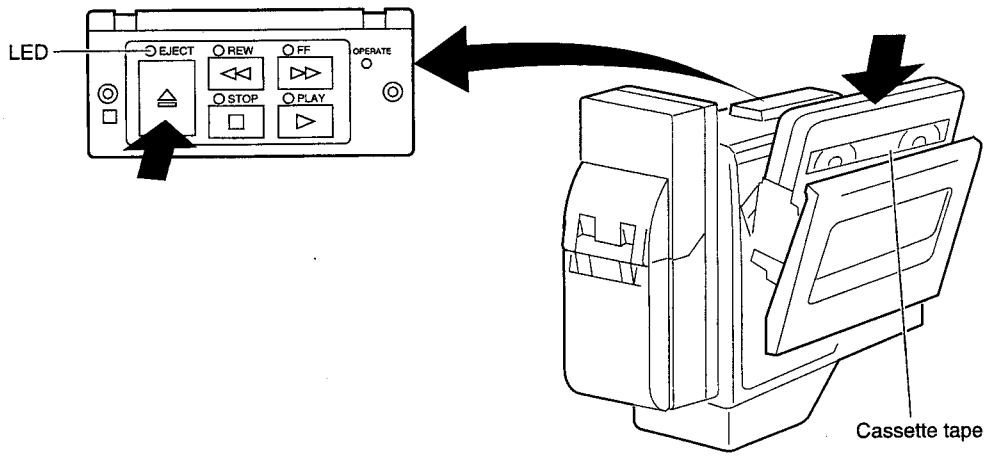
To return to OPERATE OFF mode

■ In stop mode or after ejecting the cassette, set the POWER switch of the VCR to OFF.

CASSETTE LOADING AND UNLOADING

A cassette tape can be loaded in or unloaded from the VCR while it is in OPERATE ON mode. These operations are not possible in OPERATE OFF mode.

- Use a video cassette tape marked DIGITAL S.
- A S-VHS or VHS video cassette tape cannot be used with this VCR. If you insert a S-VHS or VHS cassette in the VCR, it will be ejected automatically



Loading the Cassette

1. Press the EJECT button to open the cassette cover.
The LED indicator above the EJECT button lights and the cassette cover opens.

2 Insert a cassette tape after removing the tape slack.

3 Slowly close the cassette cover by pushing it in all the way.
The tape is loaded automatically when the cassette cover is closed.

The cassette indicator on the display blinks during tape loading and lights steadily after the loading has been completed.

- The condition at the completion of loading is variable depending on the OPERATE switch of the camera and the REC switch on the back side of the cassette tape as shown below.

OPERATE switch of Camera	REC switch of Cassette Tape	
	ON	OFF
VTR STBY	Enters record-pause mode after back-spacing.*	The VCR enters stop mode.
VTR SAVE or when camera is not connected	The VCR enters stop mode.	

- It is possible to start recording from the record-pause mode by pressing the VTR Start/Stop button of the camera.
For the recording procedure, see page 23.

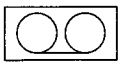
- After the cassette cover is closed, it takes about 10 seconds before the VCR can start recording or enter the stop mode.

CAUTION

When closing the cassette cover, be sure to push it in all the way. When the cassette cover is not closed completely, it is left in a half-locked state, in which the VCR accepts no operation. In this case, push the cover again all the way to get it locked firmly. When the cassette is in place and the cassette cover is only half-locked, the cassette indicator in the LCD display will not appear. When the cassette cover is properly locked, the indicator is displayed.

Unloading the Cassette

1. Press the EJECT button.
→ The LED indicator above the EJECT button lights and tape ejection starts.



The cassette indicator on the display blinks during tape ejection and turns off after the ejection has been completed.

It takes a few seconds before the cassette cover opens after the EJECT button is pressed.

2. Take out the cassette tape.

3. Close the cassette cover.

CAUTION

Do not leave the VCR for a long period with the cassette cover open.
Otherwise dirt or other foreign objects may enter the VCR, and cause malfunction.

SETUP MENUS

The setup menus can be set by referring to the counter display of the VCR. The set contents are stored in the memory and held even after the power is switched OFF.

SETUP MENU CONFIGURATION

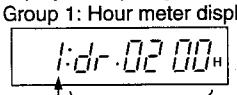
The setup menus are divided into 4 groups. Groups 1, 2 and 3 consist of display-only items such as the hour meter display, while Group 4 contains some items which can be set individually as required.

Setup menus		Display/Setting Contents
Group 1		Hour meter (Drum running time) display
Group 2		Remaining tape (hour:min.) display
Group 3		Battery voltage display
Group 4	Item	: Selection of time code generator framing mode (drop frame/non-drop frame)
	Item	: Selection of user's bit during slave locking to time code (ON/OFF)
	Item	: Selection of battery type (12 V/13.2 V/14.4 V)
	Item	: Selection of long pause time (1 min./5 min./30 min.)
	Item	: Selection of low-frequency cutting of audio input signals (OFF/ON/CH1 only/CH2 only)

DISPLAYING AND SETTING SETUP MENUS

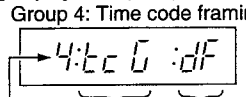
NTSC model

[Display example 1]
Group 1: Hour meter display



Drum running time (200 hours)
Group No.

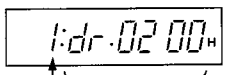
[Display example 2]
Group 4: Time code framing mode setting



Item name (TCG SELECT)
Group No. Set value (Drop-frame)

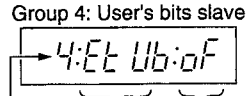
PAL model

[Display example 1]

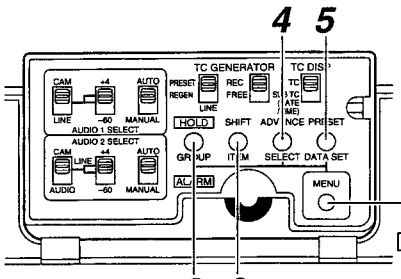


Drum running time (200 hours)
Group No.

[Display example 2]
Group 4: User's bits slave on/off



Item name (U-BIT SLAVE)
Group No. Set value (off)



1. Enter setup menu mode.
Press the MENU button.
→ The MENU indicator lights on the display and the counter display shows the setup menu.

2. Select the group.
Press the GROUP UP button.
→ The group No. shown on the counter display changes.
• Each press of the GROUP button changes the displayed group No. from Group 1 Group 2 Group 3 Group 4 Group 1....

■ To exit from setup menu mode after simply confirming the display in Group 1, 2 and/or 3, press the MENU button now. The VCR returns to normal mode.

■ Proceed to the following steps when you want to confirm or set the setup menus in Group 4.

3. Select a Group 4 item.
Press the ITEM button
→ The setup menu item shown on the counter display changes.

• Pressing the ITEM button when the Group 1,2 or 3 display is shown does not change it.

4. Select the setting value of the selected setup menu item.
Press the SELECT button to select the setting value.
• Repeat steps 3 and 4 above for each of the items you want to set.

5. Save the setting value.
Press the DATA SET button.
→ "SAVE" is displayed on the counter and the setting value is saved in the VCR memory. The counter display returns to the setup menu display when data has been saved.

6. Quit setup menu mode.
Press the MENU button.
The VCR returns to normal mode.

• If setup menu mode is quitted without saving the setting value changed with the SELECT button, "Abort" is displayed on the counter display for about 3 seconds.
To display the previously operated setup menu again, press the MENU button again while "Abort" is displayed.

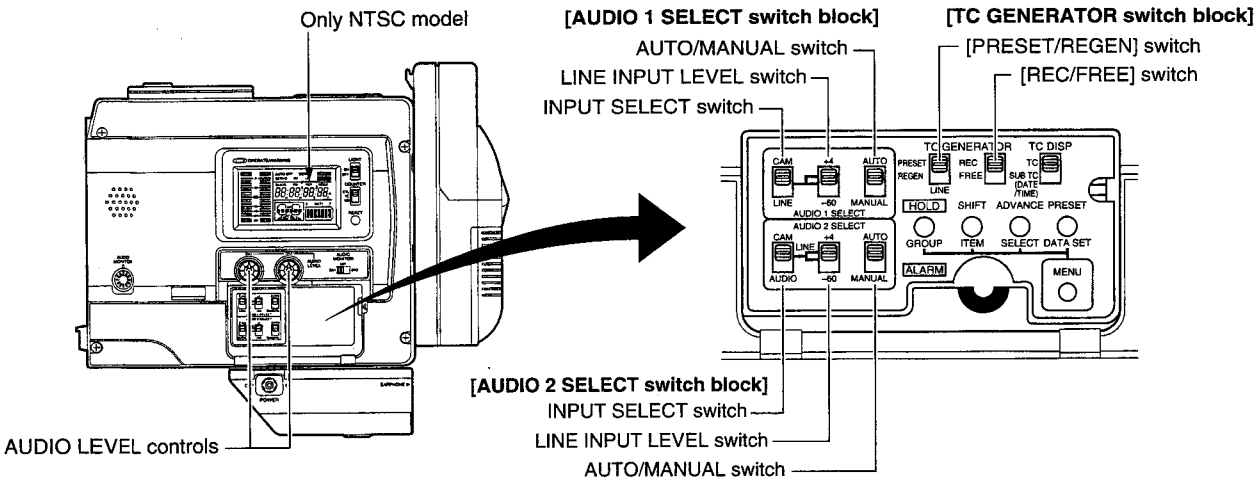
SETUP MENU CONTENTS

Group No.	Setup Menu Name		Counter Display	Contents
1	DRUM HOUR METER		1:dr·0200H	• Shows the accumulated running time of the head drum. (200 hours in this example)
2	TAPE REMAIN		2:tr·00:30	• Shows the remaining tape time in "hours:mins.". (30 minutes)
3	BATTERY VOLTAGE		3:bt· 12.5u	• Battery voltage in V. (12.5 V)
4	ITEM	TCG SELECT DROP/NON-DROP [Only NTSC model]	4:tc G :dF ↕ nF	• Selects time code generator framing mode between drop frame and non-drop frame mode. dF : Built-in TCG runs in drop frame mode. Use this setting when recording time is important. nF : Built-in TCG runs in non-drop frame mode. Use this setting when frame count is important. • Factory setting: nF (Non-drop frame mode)
		U-BIT SLAVE ON/OFF	4:Et Ub:on ↕ oF	• Selects whether user's bits are also slave-locked when the VCR is slave-locked to an external TCG. on : Slave locked. oF : Not slave locked. • Factory setting: oF (Not slave locked)
		BATT.TYPE SELECT	4:bA tt: 12 → 13 → 14 →	• Set according to the type of battery pack in use. 12 : 12 V (Set when using the NB-G1U or a 12 VDC Flat Shape Type battery pack.) 13 : 13.2 V (Set when using Anton-Bauer Trimpack 13, Magnum 13 or Compack 13.) 14 : 14.4 V (Set when using Anton-Bauer Trimpack 14, Magnum 14 or Compack 14.) • Factory setting: 12 (12 V) • If this setting is wrong, the remaining battery power display and the battery alarm will not function properly. • When powered through the DC input connector, the setting is fixed at 12 V.
		LONG PAUSE TIME SELECT	4:Ln CP:01 → 05 → 30 →	• Sets the time before the VCR in record-pause or stop mode enters the tape protect mode (in which the drum stops rotation). 01 : 1 minute 05 : 5 minutes 30 : 30 minutes • Factory setting : 30 (30 minutes)
		AUDIO LOW CUT-IN SELECT	4:Lc Ut:oF → on → 01 → 02 →	• Selects if low frequency cutoff is applied to audio input signals. Set to ON to reduce microphone wind noise, etc. oF: Both Audio 1/2 CH OFF. on: Both Audio 1/2 CH ON. 01: Only Audio 1 CH ON. 02: Only Audio 2 CH ON. • Factory setting: oF (OFF)

RECORDING

The VCR cannot enter record mode alone. It can enter record mode only when it is connected with a camera.

SWITCH SETTINGS FOR RECORDING



■ Selecting the audio input signals

The AUDIO 1 and AUDIO 2 INPUT SELECT switches can select the input signals independently for the Audio 1 and 2 channels.

- **AUDIO 1 INPUT SELECT switch**

CAM : Receives the audio signal of the camera microphone.
LINE : Receives the audio signal input through the AUDIO 1 input connector.

- **AUDIO 2 INPUT SELECT switch**

CAM : Receives the audio signal of the camera microphone. Use this position when the camera uses a stereo microphone.
- The audio is not input if this position is used with a monaural camera microphone.

LINE : Receives the audio signal input through the AUDIO 2 input connector.

AUDIO 1 : Receives the audio signal selected with the AUDIO 1 INPUT SELECT switch also in the Digital Audio 2 channel. Use this position when the camera uses a monaural microphone.
- Adjust the LINE INPUT LEVEL switch and AUDIO LEVEL controls for the AUDIO 1 channel. The AUDIO LEVEL controls for the AUDIO 2 channel should be ignored.

- **Setting the LINE input level**

When the LINE input is selected for the Audio 1 or 2 channel, the reference input level can be set according to the audio equipment connected to the AUDIO 1 or AUDIO 2 input connector.
The AUDIO 1 and AUDIO 2 INPUT LEVEL switches can set the reference input levels of respective channels to +4 dB or -60 dB.

■ Selecting the recording level adjustment methods

The AUTO/MANUAL switches can select the recording level independently for the Audio 1 and 2 channels.

AUTO : When sounds greater than the reference input level are input, the recording level is held at the reference level. The recording level does not increase when the input level is low.

MANUAL : The recording level of each channel can be adjusted with the AUDIO LEVEL control.

■ Setting the setup menus

If it is required to cut off low frequencies in the audio input signals (for example, to reduce the wind noise of microphones), set setup menu item "AUDIO LOW CUT-IN SELECT". See page 21 for details.

■ Setting the time code recording function

The VCR records SMPTE(NTSC)/EBU(PAL)-standard time code during recording. Set the switches in the TC GENERATOR block according to applications.

- To record time code as set in the built-in time code generator :
  - Set the PRESET/REGEN switch to PRESET.
  - Set the REC/FREE switch.
    If it is required to record continual time codes across different scenes, set the switch to REC.
  - Set the setup menu. (only NTSC model)
    Open the setup menu item "TCG SELECT DROP/NON-DROP" and set the framing mode of the time code generator to drop frame or non-drop frame mode.
- To record a time code in continuation from the existing time code on tape:
  - Set the PRESET/REGEN switch to REGEN.

The time taken to enter record mode from record-pause mode is variable depending on the PRESET/REGEN switch position.

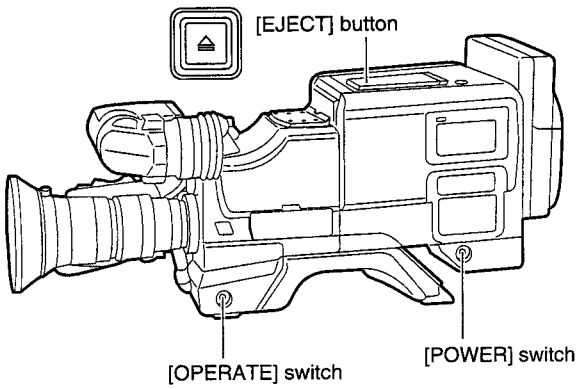
When set to PRESET : Approx. 0.8 second
When set to REGEN : Approx. 1.5 second

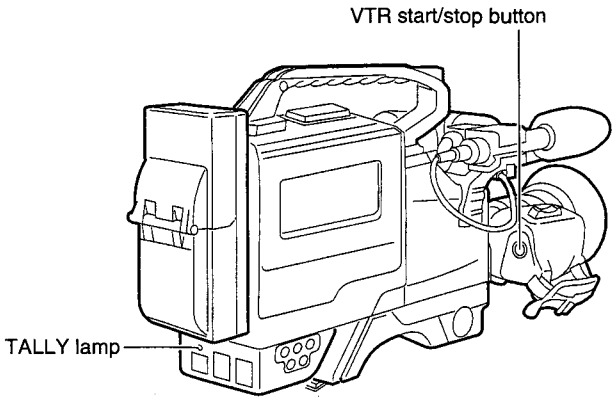
This switching will cause a shift in the tape position for the REC PAUSE. Therefore, the VCR generate a switching sound.

For details on the time code operations including time code presetting, see "TIME CODE OPERATION" on page 26.

■ The sub-time code is used to record the date and time data. For the setting of the date and time data, see page 30.

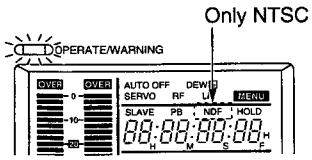
RECORDING PROCEDURE





1. Set the POWER switch of the VCR to ON.

2. Set the OPERATE switch of the camera to VTR SAVE then, in a while, to VTR ST-BY.



→ The VCR is turned ON so the OPERATE indicator lights in green and the display appears.

3. Press the EJECT button to open the cassette cover, insert a cassette tape properly and close the cassette cover gently.

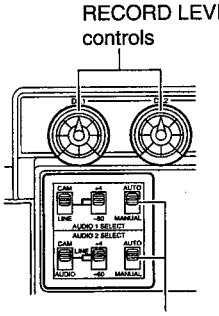
- Ensure that the REC switch on the back side of the cassette is set to ON.

→ When the cassette cover is closed, the tape is loaded and the VCR enters record-pause mode.

- Use a cassette tape marked DIGITAL S. A S-VHS or VHS cassette cannot be used with this VCR.
- After the cassette cover is closed, it takes about 10 seconds before the VCR is ready for recording.
- See page 25 for the automatic scene change cueing function.

4. Adjust the VCR and camera as required for recording before starting it.

●VCR : When adjusting the recording level manually :



- Set the AUTO/MANUAL switch to MANUAL and adjust the RECORD LEVEL controls so that the level meter peak does not exceed –5dB, even when large sounds are input.
- For the input from the camera microphone or the -60dB LINE input, the limiter circuit activates to hold the recording levels under 0dB, even when the RECORD LEVEL controls are operated.

●Camera: Adjust the white balance, focusing, zooming, etc. For details, refer to the instruction manual of the camera.

5. Start recording.
Press the VTR start/stop button of the camera.
→ The VCR starts recording.

When the VTR start/stop button is pressed, the TALLY lamp of the VCR and the REC tally lamp in the viewfinder start blinking. They turn to continuous lighting when the VCR enters record mode.

6. To let recording pause temporarily :
Press the VTR start/stop button of the camera.
→ The TALLY lamp turns off and the VCR enters record-pause mode.

When the VTR start/stop button is pressed, the VCR enters the record-pause mode after rewinding the tape for about 1 to 1.5 second (back-spacing).
During the back-spacing, the last section recorded on the tape is played in the reverse direction. However, During play in the reverse direction, a block noise is appeared. You can just use it as a reference for confirming whether recording has been made or not.

7. To restart recording:
Press the VTR start/stop button of the camera.
→ Recording restarts.

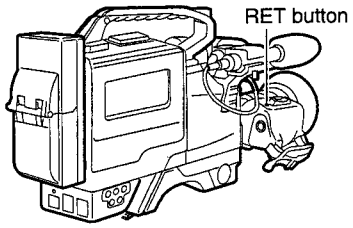
8. End recording.
Enter record-pause mode and perform the following operations as required.

■ When it is required to unload the cassette tape:
- Press the EJECT button.

■ When it is required to put the VCR in standby - OFF mode:
- Press the OPERATE switch of the camera to VTR SAVE.

- A neat transition to the next recorded scene cannot be guaranteed if you end a recording by setting the OPERATE or POWER switch to OFF. Be sure to enter record-pause mode before switching the camera OFF.
- Before recording a scene which is particularly important, perform test shooting to ensure that normal recording is possible.
- The VCR power consumption can be reduced by setting the LIGHT switch and TALLY switch to OFF.

RET button function



■ Recording check

- When the RET button on the camera lens is pressed while the VCR is in record-pause mode, the tape is rewound and played back for about 2 seconds. Holding the RET button allows the rewinding and playing of the tape for up to 10 seconds. The VCR returns to the record-pause mode after the rewinding and playback.
- If the VTR Start/Stop button is pressed during a recording check, the check is stopped and recording starts immediately. As a result, the transition to the next scene in the recorded tape may be disturbed.

■ Backspace for transition recording

This is the facility for the proper execution of a transition recording of a desired section of a recorded tape.

1. Press the PLAY button in order to play the tape back.

2. While monitoring the viewfinder, press the STOP button at the scene where you want to start a transition recording.

3. Press the RET button on the camera lens unit.

→ "Backspace" takes place to start recording at the scene where you pressed the STOP button.

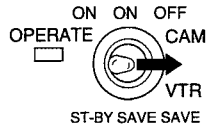
4. Press the VTR Start/Stop button on the camera unit to begin recording.

- The RET button function are not available for some cameras. Supported by KY-D29 and KY-19 cameras. For the KY-27 series, the products with serial numbers having the following 4 last digits are supported. Greater than 1219(for U-ver)/1346(for E-ver) (use the figures only as a guidepost) Unsupported products can be upgraded on request for a charge. Contact the nearest JVC authorized service agent.

VCR Power-Save

■ To put the VCR in power-save mode, set the OPERATE switch of the camera to VTR SAVE.

→ The VCR in record-pause mode enters power standby - OFF mode. The display is turned off in this low power consumption mode.



■ If you want to record in the Power-Save mode, press the VTR Start/Stop button on the camera, and the VCR power is turned on so that the drum begins to run and starts recording in about 8 seconds. (KY-D29 only)

■ To return to record-pause mode from power-save mode, set the OPERATE switch of the camera to VTR ST-BY.

If VCR is Left In Record-Pause Mode

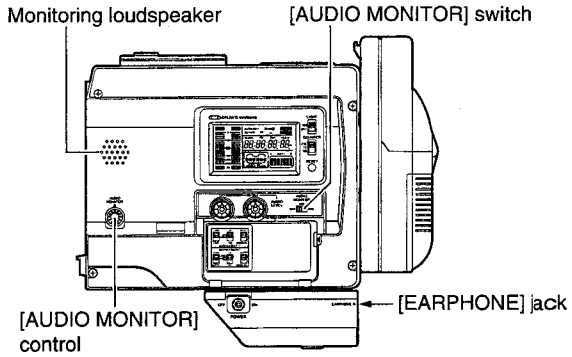
When the VCR has remained in record-pause mode for about 30 minutes, the VCR enters tape protect mode, in which the drum rotation is stopped automatically and the tape tension is released.

■ To start recording from tape protect mode, press the VTR start/stop button of the camera; the drum starts to rotate and recording starts in about 8 seconds.

■ To return to record-pause mode from tape protect mode, press the VTR start/stop button of the camera twice; the drum starts to rotate.

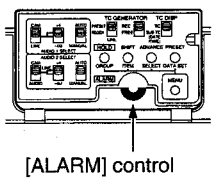
- The time until the VCR enters tape protect mode after it is put to record-pause mode can be set with the setup menu item "LONG PAUSE TIME SELECT" to 1 minute, 5 minutes or 30 minutes.

Monitoring Audio During Recording



The audio input during recording can be monitored through the monitoring loudspeaker or earphone.

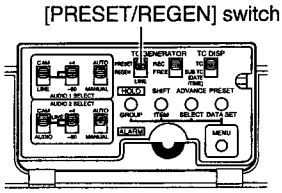
- The monitoring audio is not output from the loudspeaker while the EARPHONE jack is in use.
- The AUDIO MONITOR switch selects the audio channels to be monitored.
- The AUDIO MONITOR control adjusts the monitoring volume.
- The loudspeaker or earphone outputs an alarm tone in the case of an abnormal condition occurring with the VCR.



An alarm tone is also output when the tape end is reached or when the battery is running down. The alarm tone volume can be adjusted with the ALARM control. For details on the alarm tone, see pages 31 and 32.

- Do not increase the audio monitoring volume too high, otherwise howling with the camera microphone may occur.

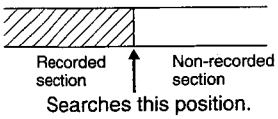
PRESET/REGEN Switch



- Switching the PRESET/REGEN switch in record-pause mode changes the tape position during record-pause according to the switch setting.
- When the PRESET/REGEN switch is switched after having started recording by pressing the VTR start/stop button of the camera, the new setting remains valid in subsequent recording operations.

Automatic scene change cueing

When the VCR is recording something on a virgin tape, the recording is stopped by entering the record-pause mode and the VCR is switched OFF or the cassette is ejected and then reloaded before the next recording, the automatic scene change cueing function ensures a neat transition to the next recorded scene by automatically searching for the end of the last recording.



The automatic scene change cueing operation is performed for about 10 seconds after the VCR is switched ON again or the cassette is reloaded.

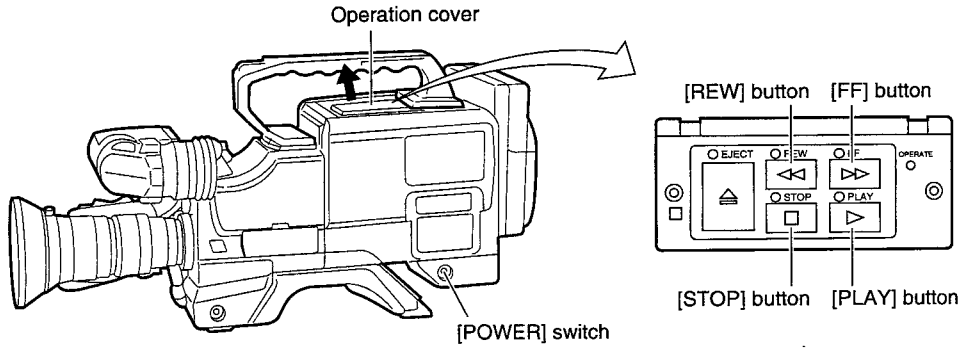
This function takes place on the following occasions:

- When the VCR is switched ON after it has been switched OFF in record-pause mode.
- When the cassette is reloaded after it has been ejected in record-pause mode. *Note that proper operation cannot be guaranteed depending on the type of cassette or the tape position where the recording was ended.
- When the RET button on the camera lens is pressed in stop mode. (See the RET button function on page 24.)

NOTES

- If the VTR Start/Stop button is pressed in the middle of the automatic scene change cueing operation, the VTR start/stop function is given priority so a neat transition to the next scene cannot be guaranteed.
- Be sure to use the VTR Start/Stop button to end every recording (because a pilot signal for ensuring a neat transition to the next scene is recorded when this is done.)
- The proper functioning of the automatic scene change cueing cannot be guaranteed if the recording time before entering the record-pause mode is less than 2 seconds.
- The last recorded position cannot be searched if the tape position has been changed from the position where the VCR entered record-pause mode last.
  The search operation occurs only when the current tape position is less than 2 seconds from the position where the record-pause mode was last entered.

PLAYBACK



PLAYBACK PROCEDURE

1. Set the POWER switch of the VCR to ON, and open the operation cover to put it in OPERATE ON mode.

2. Load a prerecorded cassette tape properly.

3. Press the PLAY button.

→ The PLAY indicator lights up and playback starts.

●If the VCR is in the record-pause mode, press the STOP button to release the record-pause mode before pressing the PLAY button.

4. Press the STOP button to stop recording.

→ The STOP indicator lights up and the VCR enters stop mode.

- This VCR is not capable of manual tracking adjustment. The tracking is adjusted automatically during playback.
- This VCR is not capable of still image playback.
- A S-VHS or VHS cassette tape cannot be used with this VCR.
- When auto tracking is activated at the start of the play mode, the played video will be interfered with by digital noise. The linear track audio is output in this period.

FAST FORWARD, REWIND

■ Press the FF button in stop mode to fast forward tape and press the REW button in stop mode to rewind tape.

■ Press the STOP button to stop fast forwarding or rewinding.

- When the tape approaches the end during fast forwarding or rewinding, the tape speed decelerates to protect the tape.

SEARCH

■ Press the FF button in play mode to search the tape in the forward direction at about 6 times the normal speed.
Press the REW button in play mode to search the tape in the reverse direction at about 6 times the normal speed.

■ Press the PLAY button to resume normal playback.

- The audio recorded on the linear track of the tape is reproduced during the search.
- Video noise may be observed or the image may become unstable during the search, but this is not a malfunction.

TIME CODE OPERATION

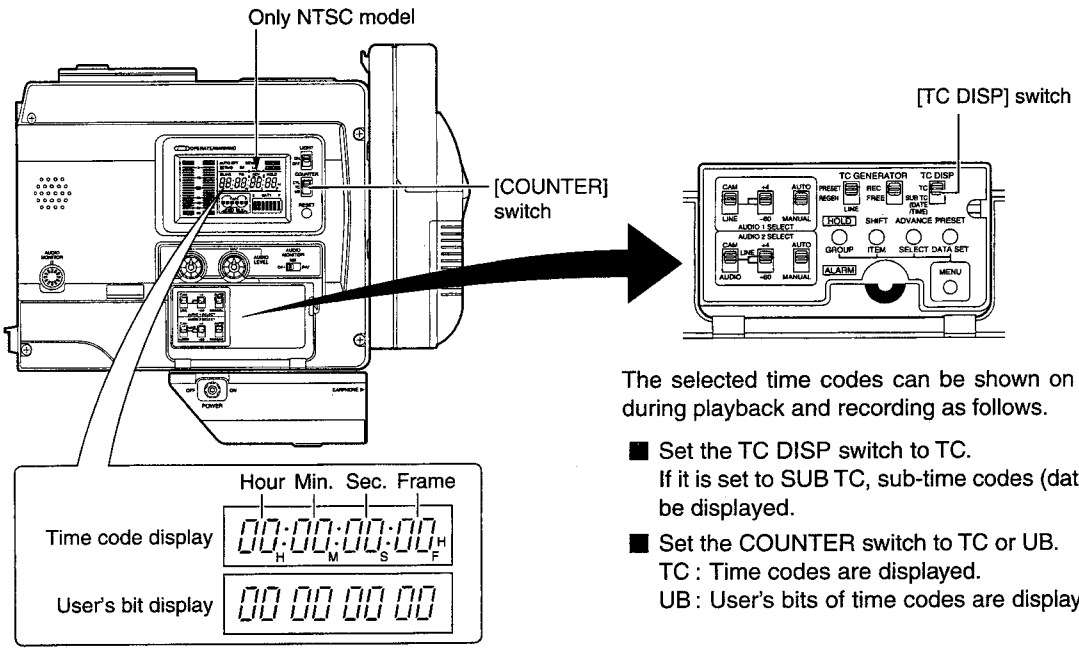
This VCR records 2 time code areas on the tape; the main time code area which contains time codes for use as time data in editing, etc., and the sub-time code area which can optionally contain the date and time data.

- The main time code area contains the recording of SMPTE-standard time codes and user's bits. In play mode, the reproduced time codes or user's bits are shown on the counter display.
- The sub-time code area contains the recording of the date and time data, which can also be shown on the counter display during playback.

> - Neither the main time code nor sub-time code data is output through the VIDEO OUT connector.
> - The generated time-codes are output from the TC OUT connector.

The following description begins with the handling method of the main time code. That of the sub-time code will be described from page 29 and on.

DISPLAYING TIME CODE



The selected time codes can be shown on the counter display during playback and recording as follows.

■ Set the TC DISP switch to TC.
If it is set to SUB TC, sub-time codes (date and time data) will be displayed.

■ Set the COUNTER switch to TC or UB.
TC : Time codes are displayed.
UB : User's bits of time codes are displayed.

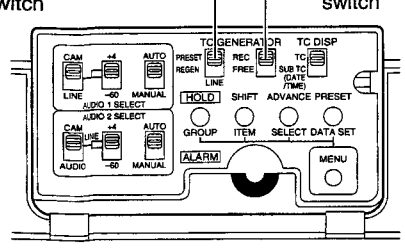
SETTING AND RECORDING TIME CODES

The time code and user's bit data from the built-in time code generator are recorded during recording.
The built-in time code generator is operated with one of the following methods.

■ Presetting desired data in the time code generator and recording it.
■ Slave-locking the built-in time code generator with the data of an external time code generator.
■ Reading the time code data from tape and recording continual time codes to it.

Presetting and Recording of Time Code

The time code or user's bit data to be recorded onto tape can be preset to a desired value.



Switch setting

■ Setting the switches in the TC GENERATOR block

- Set the [PRESET/REGEN] switch to PRESET.
- Set the [REC/FREE] switch as follows.

REC : The data preset in the time code generator runs only during recording. Use this setting to record continual time codes across scenes when recording them one after another.

FREE : The data starts to run from the moment it has been preset in the time code generator.

Drop frame/Non-drop frame modes

With the NTSC format, the actual number of frames per second is about 29.97 frames, while the number of frames assumed for use in time code processing standard is 30 frames. The drop frame mode compensates for this difference by dropping frames 00 and 01 at every minute whose figure cannot be divided by 10. The non-drop frame mode ignores the above difference and does not drop frames.

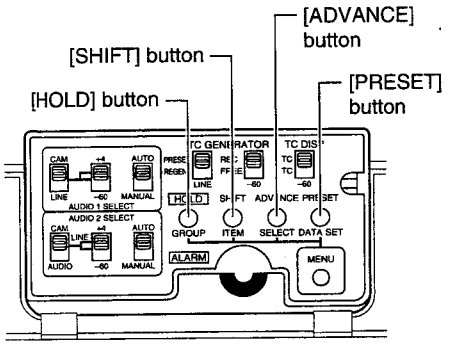
■ Setup menu setting

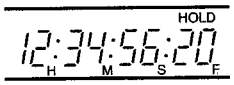
Select the framing mode of the time code generator with setup menu item "TCG SELECT DROP/NON-DROP".

dF : The time code generator runs in drop frame mode. Use this setting when putting importance on the recording time.

nF : The time code generator runs in non-drop frame mode. Use this setting when putting importance on the number of frames.
The NDF indicator on the LCD display lights in non-drop frame mode.

Time Code Presetting Procedure





1. Display time code on the counter display.
Set the COUNTER switch to TC.
• Time code up to 23 hrs. 59 min. 59 sec. 29(NTSC)/24(PAL) frames can be preset.

2. Put the time code generator in preset mode.
Press the HOLD button.
→ The HOLD indicator lights on the display to indicate the preset mode. The first digit of the counter display blinks.

3. Set the value of the blinking digit.
Press the ADVANCE button.
→ The value of the blinking digit changes.

4. Change the blinking digit.
Press the SHIFT button.
→ The blinking digit changes.

5. Set the desired value for all digits.
Repeat steps ***3*** and ***4*** for each digit.

6. Preset the set data in the memory.
Press the PRESET button.
→ The set data is saved as the time code generator value.
After the above operation, the HOLD indicator disappears from the display, the counter stops blinking and the time code is preset.
• If the REC/FREE switch is set to FREE, the time code starts to run.

■ If you preset a wrong time code, perform steps ***3***, ***4***, ***5*** and ***6*** again.

- Pressing the [RESET] button in preset mode resets the time code or user's bit data to 00 00 00 00.
- If you have pressed the [HOLD] button by mistake, press the [HOLD] button again to return to the previous display.

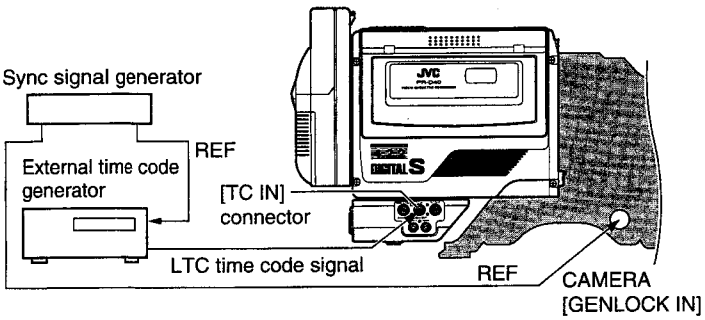
Presetting the user's bit

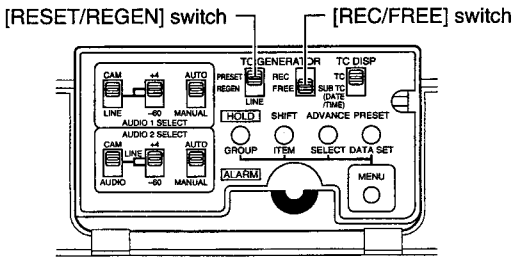
■ Display user's bit on the counter display and perform the same procedure as the time code presetting procedure.
• The user's bit can be specified using numerals or alphabets from 0 to F for each digit.

TIME CODE OPERATION

Recording Time Codes by Slave-Locking the Built-in Time Code Generator with the External TCG

The built-in time code generator can be synchronized (slave-locked) with the SMPTE(NTSC)/EBU(PAL)-standard LTC time code signal which is input through the TC IN connector. Once the slave locking has been carried out, the built-in time code generator runs even when the external time code input stops. Even when the power is switched off, it continues to run on the backup lithium battery.





1. Input the external LTC time code signal in compliance with the SMPTE/EBU standard to the TC IN connector.

2. Display time code on the counter display.

3. Set the switches in the TC GENERATOR block as follows.
- Set the PRESET/REGEN switch to PRESET.
- Set the REC/FREE switch to FREE.

■ Setup menu setting

Set setup menu item "U-BIT SLAVE ON/OFF" as required.
- Set to ON if you want to also slave lock the user's bits to the external time code generator.

The framing mode is set automatically to the same mode as the input time code (drop frame or non-drop frame mode). The NDF indicator lights on the display if the framing mode is the non-drop frame mode.(Only NTSC model)

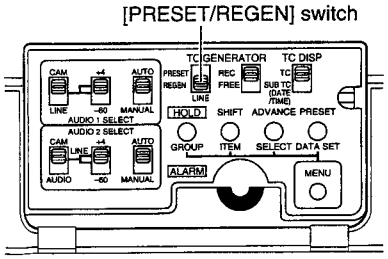
4. Set and operate the external time code generator.
→ The built-in time code generator is slave-locked with the input external time code data.
The SLAVE indicator lights on the display.

* If the external time code generator phase is not genlocked with the phase of the camera video signals, the "SLAVE" display will flicker.
- Once slave locking has been made, the built-in time code generator keeps on running even when the external time code generator is stopped.

- While the REC/FREE switch is set to REC, slave-locking will not take place.

Recording Time Codes in Continuance From Time Codes Recorded on Tape

The VCR also incorporates a time code reader. Therefore, when the VCR enters record mode from record-pause mode, it can read the time code data recorded on tape and record continual time codes after it. The recorded user's bit data is identical to the user's bit data recorded on tape.
To make this possible, set the switches in the TC GENERATOR block as follows before starting recording.



When the PRESET/REGEN switch is set to REGEN, the time taken for entering record mode from record-pause mode becomes slightly longer.

Setting

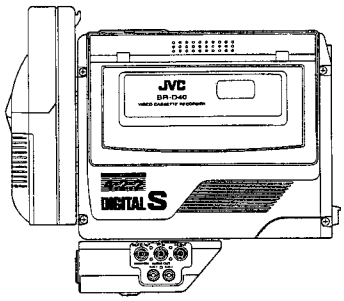
■ Set the counter display to display time codes or user's bits.

■ Set the PRESET/REGEN switch to REGEN.
- The time code run mode becomes unrelated to the REC/FREE switch settings.
- The framing mode of the time code generator becomes automatically identical to the mode used by the time codes recorded on the tape (drop frame or non-drop frame mode).

→ Only NTSC model

REPRODUCING TIME CODES

The VCR incorporates a time code reader which outputs the time codes and user's bits recorded on the played tape is displayed on the counter display. The played time codes and user's bits are not output from the VIDEO OUT and TC OUT connector.



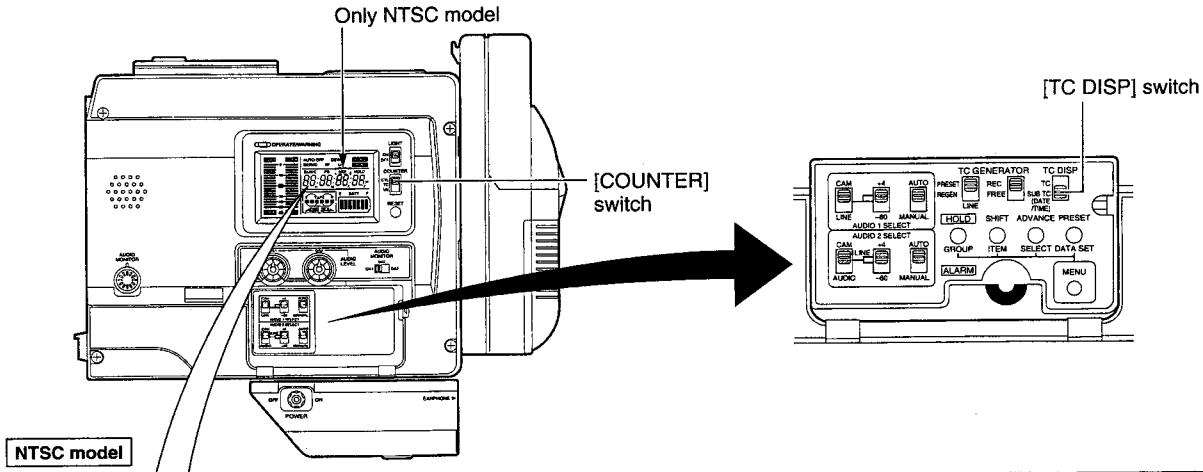
■ Set the counter display to display time codes or user's bits.

■ Reproduce time codes.
Press the PLAY button.
→ The PB indicator lights on the display and the reproduced time code or user's bit is displayed.

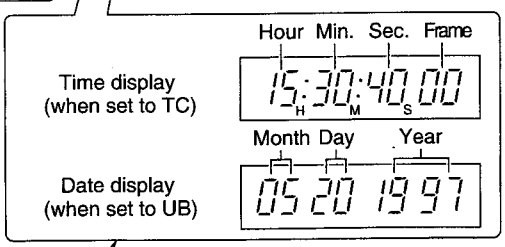
SUB-TIME CODE (DATE, TIME)

The VCR records a sub-time code area as an additional time code recording area to the main time code area.
The sub-time code area contains data on the date and time of the day.

Displaying Sub-Time Code Data (Date and Time Data)



NTSC model

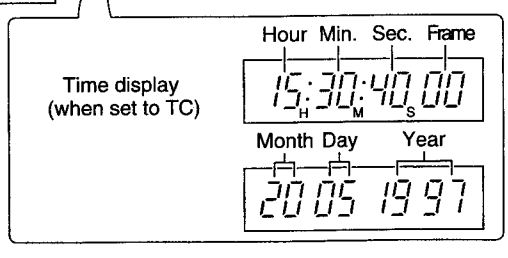


The date and time data based on the sub-time codes can be displayed during playback and recording.

■ Set the [TC DISP] switch to SUB TC.

■ Set the [COUNTER] switch to TC or UB.
When set to TC : Time data (hour, minute, second, frame) is displayed.
When set to UB : Date data (month, day, year) is displayed.

PAL model



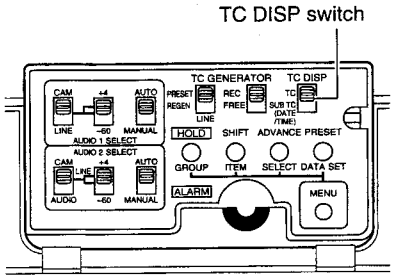
The date and time data based on the sub-time codes can be displayed during playback and recording.

■ Set the [TC DISP] switch to SUB TC.

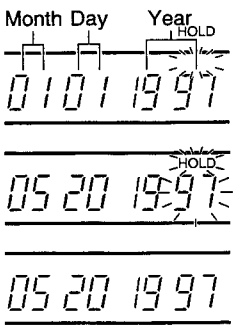
■ Set the [COUNTER] switch to TC or UB.
When set to TC : Time data (hour, minute, second, frame) is displayed.
When set to UB : Date data (day, month, year) is displayed.

Setting the Date and Time (Sub-Time Code)

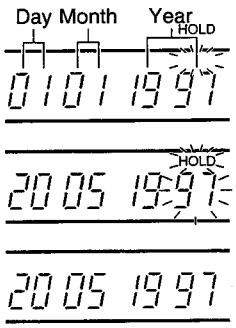
The set date and time data is stored in the sub-time code area on tape.
The set date/time data will continue the counting on the backup lithium battery, even when the power is switched off.

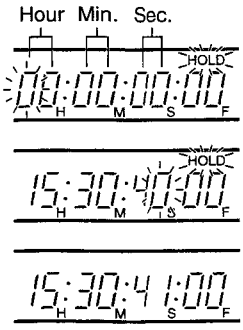


NTSC model



PAL model





Setting the date

1. Display the date on the counter display.
- Set the TC DISP switch to SUB TC and the counter switch to UB.

2. Press the HOLD button to initiate the setting mode.
The HOLD indicator lights on the display, indicating that the VCR is in the setting mode.
The the first two digits of the counter display blinks.

3. Set the figures of the month(for NTSC)/day(for PAL).
- Press the ADVANCE button to set the figure of the blinking digit.

4. Similarly, set the figures of day(for NTSC)/month(for PAL) and year by pressing the SHIFT button to change the blinking digit and pressing the ADVANCE button to set its figure.

5. Press the PRESET button to save the set date in the memory.
The HOLD indicator on the display turns off and the date display stops blinking.

Setting the Time of the Day

1. Display the time data on the counter display.
- Set the TC DISP switch to SUB TC and the counter switch to TC.

2. Press the HOLD button to initiate the setting mode.
The HOLD indicator lights on the display, indicating that the VCR is in the setting mode.
The first digit of the counter display blinks.

3. Similarly to the date setting operation, set the figures of the hour, minute and second using the SHIFT and ADVANCE buttons.
- The hour should be set in the 24-hour mode.
- The frame cannot be set. It will be fixed to 00.

4. Press the PRESET button to save the set time in the memory.
The HOLD indicator on the display turns off and the time starts to count.

Reproducing the Date and Time (Sub-Time Code)

The recorded date and time data is not included in the video signal output from the VIDEO OUT connector or the time code signal output from the TC OUT connector.
The data is displayed only on the counter display of the VCR during playback of the tape.

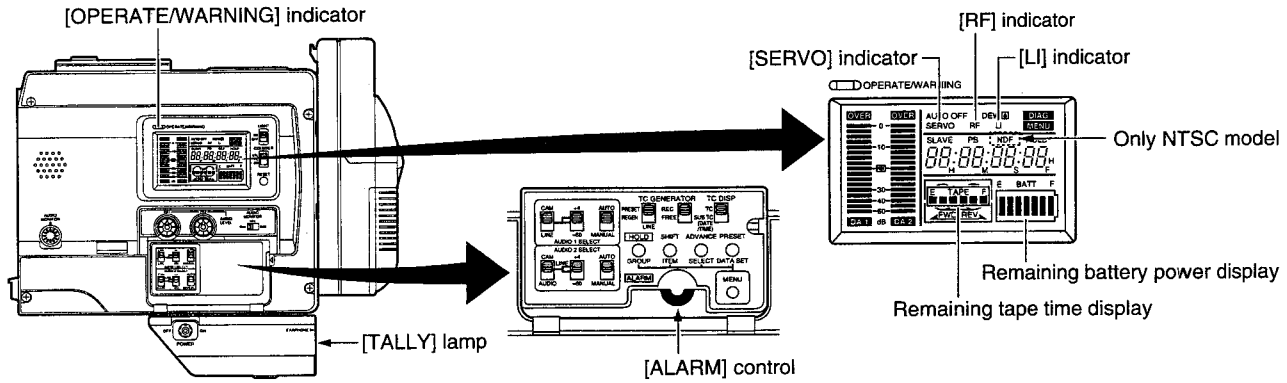
- When a tape recorded with this VCR is played on a desk-top type DIGITAL S VCR (e.g. JVC BR-D50/D80/D85, etc.), the date or time data is shown on the sub-time code display of the DIGITAL S VCR. The time data is displayed when the COUNTER switch of the DIGITAL S VCR is set to TC, and the date data is displayed if the switch is set to UB.

TROUBLESHOOTING GUIDE

The VCR provides warning on troubles in the operating situations using indicators, LCD displays and monitor tones.
The warning consists of the following two kinds of information.

- Alarm indications : These indications are given to provide warning on the VCR situation, for example when the tape or battery pack should be replaced.
- Error code display : In case an error occurs with the VCR operation, the VCR applies self-diagnostics of the cases and shows the diagnostics results on the counter display. At the same time as displaying an error code display, the VCR stops operation automatically or ejects the cassette tape.

ALARM INDICATIONS



• The LCD display, OPERATE/WARNING indicator, TALLY lamp and alarm tone act depending on situations as shown in the following table.

Alarm Indications				Situation	VCR Behavior, Treatment
LCD Display	OPERATE/ WARNING indicator	TALLY lamp	Alarm Tone		
SERVO indicato	✣	✣	▮▮▮▮	Lights in case of drum servo trouble during recording. Lights when input video signal is disturbed or VCR is subject to a shock. (Displayed only in record mode)	Operation : Continues. Treatment : • Check input video signal. • Signal is disturbed when VCR is subject to a violent shock. * In other cases, consult your dealer or nearest JVC-authorized service agent.
RF indicator	✣	✣	▮▮▮▮	Lights in case of video head clog. (Displayed only during back-spacing for record-pause mode.)	Operation : Continues. Treatment : Clean the head with the special head cleaning tape.
LI indicator	—	—	—	Lights when lithium battery for time code generator and date/ time data backup is exhausted.	Operation : Continues. Treatment : Replace it with a new lithium battery. See page 34.
Remaining tape time E TAPE	◑	◑	—	• Approx. 2 min. before tape end. (Displayed only in record or record-pause mode) The TALLY lamp and alarm tone are activated only in the record mode.	Operation : Continues.
E TAPE	●	✣	▮▮▮▮	• When tape has ended completely	Operation : Stops.
Remaining battery power E BATT	◑	◑ (Except for play/search mode)	—	When the remaining battery power is low.	Operation: Continues. Treatment: Replace battery pack early.
E BATT	●	✣	▮▮▮▮	When the battery power drops to an insufficient level.	Operation : Stops automatically and operate turns OFF.

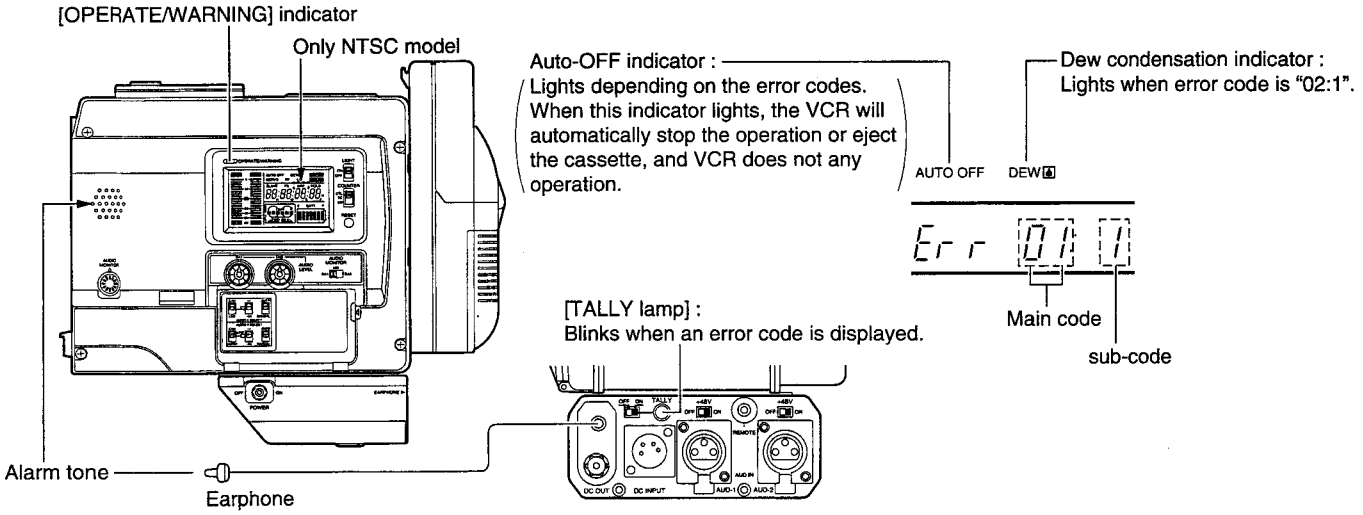
• The OPERATE/WARNING indicator usually lights in green to indicate OPERATE ON mode. In case of alarm, its color turns red and acts as shown in the above table.
• The alarm tone output is superimposed in the audio signal output from the monitoring loudspeaker or EARPHONE jack. The volume of the alarm tone can be adjusted with the ALARM control.

Display symbols ● : Steady lighting. ◑ : Blinking once per second. ✣ : Blinking 4 times per second.
▮▮▮▮ : Continuous sound. —▮▮— : Sound interrupted once per second. ▮▮▮▮ : Sound interrupted 4 times per second.

* Refer to "1.5 How to detect the alarm" in Page 1-20 of the service manual.

TROUBLES WITH *ERROR CODE OUTPUTS

In case of trouble during operation of the VCR, it applies self-diagnostics to identify the cause and displays the result in the form of an error code. The error code consists of the "main code" which indicates its contents and the "sub-code" which indicates the details. At this time, the LCD display, the OPERATE/WARNING indicator and alarm tone also act according to the current VCR situation.



OPERATE/WARNING indicator	Alarm Tone	Display	VCR Operation
Red. blinking	Continuous	"Error code"	• Automatically ejects the cassette. It can be inserted again.
		"Error code" plus "AUTO OFF"	• Automatically stops operation or eject the cassette. (Auto OFF*). The VCR does not accept any operation.
Red, steady lighting	Intermittent	"02:1" and "DEW"	• Dew is condensed in the VCR. The VCR does not accept operation until indicators disappear from the display.

★In the Auto OFF status, it is impossible to operate the VCR. This condition can be corrected by switching the POWER or OPERATE off and then switching it ON again. If the same trouble occurs again after the power is turned ON, there may be a failure in the VCR. Please consult your dealer or nearest JVC-authorized service agent.

This VCR is microcomputer-controlled equipment, which may malfunction due to external noise or interference. In this case, switch the VCR OFF, remove the lithium backup battery, and switch the VCR ON again after a few seconds.

Error Code	Error Details	VCR Operation	Treatment
01 : 1	Tape sensor LED wire is disconnected	Ejects cassette and does not accept any operation while the error is displayed.	Switch power ON again.
02 : 1	Condensation (dewing)	Does not accept any operation while the error is displayed. When condensation disappears, the indicators turn off.	Leave the VCR with the power ON, until "DEW" display disappears.
32 : 1 32 : 2	Tape loading impossible.	Ejects cassette	Insert cassette again.
33 : 1	Tape unloading impossible.	Stops operation. Does not accept any operation.	Switch the power OFF and then switch it back ON. However, the tape may be damaged depending on the situation. So consult with the JVC authorized service agent.

* Refer to "1.6 ERROR CODES" in Page 1-21 of the service manual.

Error Code	Error Details	VCR Operation	Treatment
56 : 3 to 56 : 8	Tape is cut or tape is slack.	Ejects cassette.	Check cassette and insert again if it is OK.
57 : 1 to 57 : 4	Tape end sensor error.	Rewinds tape to confirm. If tape end is detected again, ejects the cassette.	Check cassette and insert again if it is OK.
58 : 1 to 58 : 4	Tape beginning sensor error.	Fast forwards tape to confirm. If tape beginning is detected again, ejects the cassette.	Check cassette and insert again if it is OK.
70 : 1	Drum rotation stopped.	Stops operation. Does not accept any operation.	Switch the power OFF and then switch it back ON. However, the tape may be damaged depending on the situation. So consult with the JVC authorized service agent.
71 : 1	Capstan rotation stopped.	Stops operation. Does not accept any operation.	
72 : 1 to 72 : 5	Supply reel rotation error.	Stops operation. Does not accept any operation.	
72 : 7	Supply reel rotation error due to tightly wound tape.	Ejects cassette.	Check cassette and insert again if it is OK.
73 : 1 to 73 : 4	Take up reel rotation error.	Stops operation. Does not accept any operation.	Switch the power OFF and then switch it back ON. However, the tape may be damaged depending on the situation. So consult with the JVC authorized service agent.
73 : 7	Take up reel rotation error due to tightly wound tape.	Ejects cassette.	Check cassette and insert again if it is OK.

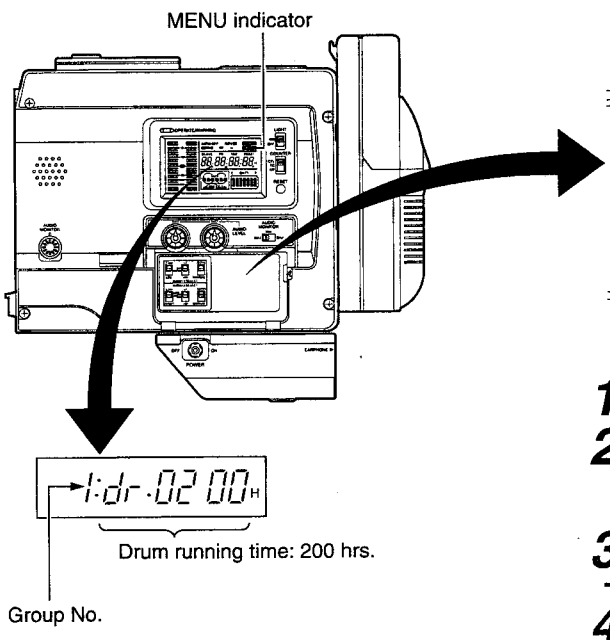
TROUBLES WITHOUT ERROR CODE OUTPUT

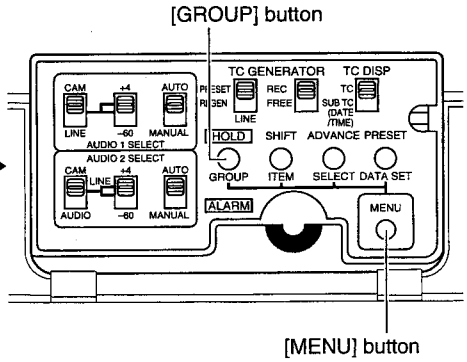
Symptons	Check points
VCR power cannot be switched ON.	• Is power supply connected properly? • Is battery pack recharged? • Even when the POWER switch is set to ON, VCR power cannot be switched ON if the camera's OPERATE switch is not set to ST-BY or, in case of playback, until the VCR's operation cover is opened. • When the lithium battery is depleted, the power should not be turned on.
Recording is not possible.	• Is REC switch of cassette set it to ON? If it is OFF, set to ON.
Cassette is ejected.	• Is the cassette in use a DIGITAL S cassette? VHS or S-VHS cassettes are ejected whenever they are inserted.
Noise interferes with playback video.	• Video head may be clogged with dirt. Clean head with the special head cleaning tape.
Time code or date/ time data are not displayed on the monitor screen.	• Time code and date/time data are not displayed on the monitor screen during recording or playback of VCR. The data is shown only on the counter display.
Time code and user's bit data are not displayed on the counter.	• Is TC DISP switch under the side panel cover set to SUB TC? If it is, set the switch to TC.
Remaining battery power display is incorrect.	• The setup menu item "BATT. TYPE SELECT" may not be set correctly according to the type of battery in use. If the menu item setting is wrong, set it correctly by opening setup menu item "BATT. TYPE SELECT".
Battery alarm is displayed and VCR enters OPERATE OFF mode even when a fully charged battery is used.	
The operation of the PLAY, REW, or FF button is not accepted.	• The unit is not in REC PAUSE mode. Press STOP button to cancel the REC PAUSE, then enter the desired mode.

GENERAL

HOUR METER DISPLAY

The VCR can display the running time of the drum as the hour meter data on the counter display.
The hour meter can be displayed by selecting setup menu Group 1.





1. Put the VCR to OPERATE ON mode.

2. Press the [MENU] button to enter the setup menu mode.
The MENU indicator lights on the display and the setup menu is shown on the counter display.

3. Press the [GROUP] button to display setup menu Group 1.
→ The drum operating hour data is shown on the counter display.

4. Press the [MENU] button to return to the normal mode.

HOW TO REPLACE BACKUP LITHIUM BATTERIES

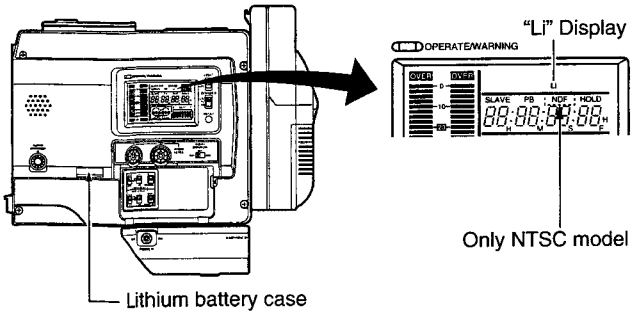
This unit uses a lithium battery to backup the time code and date/time data.
Install the provided lithium battery before actually using the unit.

CAUTION

If the unit is not used for a lengthy period of time, remove the lithium battery. If the voltage of the lithium battery is low, the set may malfunction.

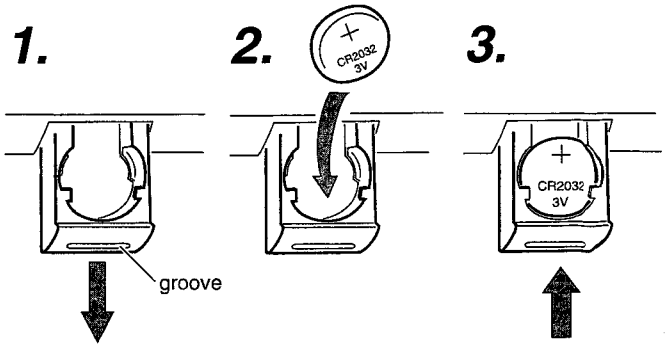
- **Lithium battery : CR2032**

When the lithium battery is not in place or the battery is running down and requires a replacement, the "LI" in the LCD display will light up.



- Replace lithium batteries with the OPERATE switch ON. Doing it with the OPERATE switch OFF will cause the loss of backup data.

HOW TO INSTALL THE LITHIUM BATTERY

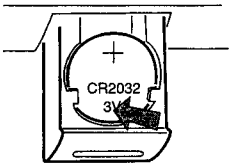


1. Place a flat-blade screwdriver in the groove of the lithium battery case and lower it.

2. Slide the battery into place with its + – marked surface facing upward.

3. Push the lithium battery case back into the unit.

HOW TO REMOVE LITHIUM BATTERIES



■ If you press the lithium battery at the shown place, it will easily be removed.

SPECIFICATIONS

General

■ Format	: DIGITAL S
■ Tape width	: 12.65 mm
■ Tape speed	: 57.737 mm/sec. (U-ver)
	: 57.795 mm/sec. (E-ver)
■ Signal format	: NTSC (U-ver)
	: PAL (E-ver)
■ Record/play time	: 104 minutes (with a DS-104 cassette)
■ FF/rewind time	: Approx. 4 minutes (with a DS-64)
■ Power supply	: 12 V DC (11 to 15 V DC)
■ Power consumption	: Max. 28 W (22 W in record mode)
■ Camera power	: 12 V, max. 1.7 A (max. 20 W)
■ Auxiliary power output	: 12 V DC : max. 0.1A (11 to 15 V DC)
■ Dimensions	: 294.5 (W) × 268.5 (H) × 142 (D) mm
■ Weight	: Approx. 4 kg (net weight) Approx. 5 kg (including NB-G1U battery pack and tape)
■ Operating temperatures	: 0°C to 40°C (32°F to 104°F)
■ Operating humidity	: 30% to 80%RH
■ Storage temperatures	: –20°C to 60°C (-4°F to 140°F)

Video Signal System

■ Video input (50–pin)	: Component signal input
■ Composite video output	: 1 Vp–p, 75ohm, unbalanced
■ Sampling frequencies	: Y : 13.5 MHz. R-Y/B-Y : 6.75 MHz.
■ Quantization	: 8-bit
■ S/N	: More than 52 dB (during BR-D80/D50 reproduction with component output)
■ Resolution	: More than 410 lines

Audio Signal System

■ Number of channels	: PCM × 2, cue track × 2
■ Audio inputs	
50-pin connector input	: –20 dBs, 10kohm, balanced
50-pin line input	: +4 dB, 10kohm, balanced
	: –60 dB, 3kohm, balanced
■ Audio output	: –6 dBs, low impedance, unbalanced
■ Earphone output	: –60 to -17 dBs, at 8ohm, load
■ Sampling frequency	: 48 kHz
■ Quantization	: 16-bit
■ Frequency response	: 20 Hz to 20 kHz (PCM)
■ Dynamic range	: More than 85 dB (PCM) (during BR-D80/D50 reproduction)
■ Wow & flutter	: Below measurable limit

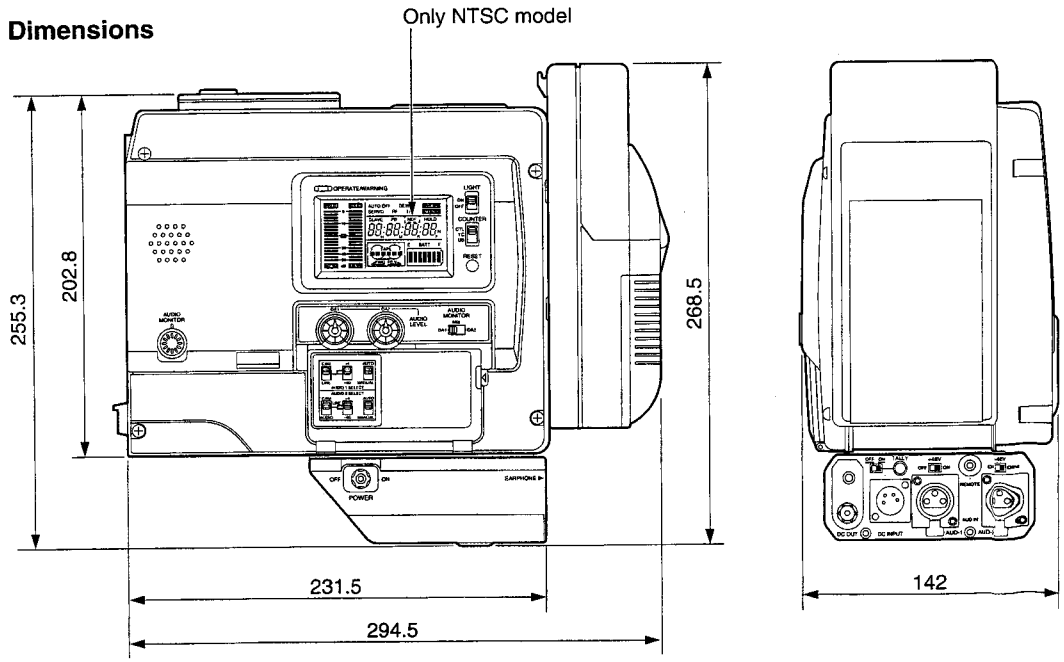
Time Code System

■ Time code signal	: Compliance with SMPTE standard(U-ver)
	: Compliance with EBU standard(E-ver)
■ LTC input	: 0 +/–6 dBs, high impedance, unbalanced
■ LTC output	: 0 +/–6 dBs, low impedance, unbalanced

Accessories

■ Carrying handle	: × 1
■ Lithium battery (CR2032)	: × 1

Dimensions



Design and specifications are subject to change without notice.

Unit: mm

JVC

VICTOR COMPANY OF JAPAN, LIMITED

SL-6070: U-ver
SL-6071: E-ver

SECTION 1
SERVICE CAUTIONS AND DISASSEMBLY

1.1 HOW TO REMOVE THE OUTER CASE

1.1.1 How to remove the cassette cover

(1) Remove two screw covers (A).

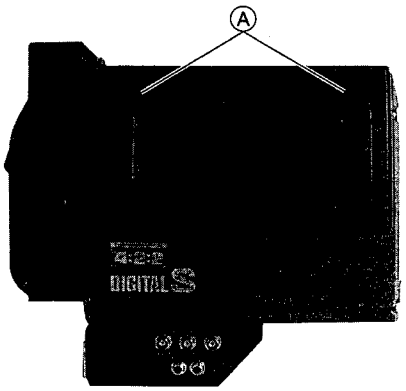


Fig. 1.1.1 (1) How to remove screw covers

(2) Remove two screws (1).
(3) Slide the cassette cover in the arrow direction in order to remove it.

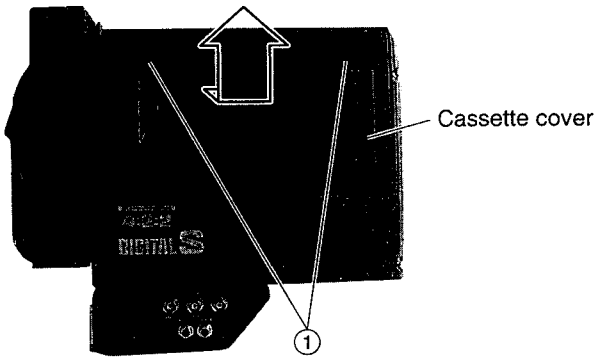


Fig. 1.1.1 (2) How to remove cassette cover

1.1.2 How to remove the left side cover

(1) Remove the cassette cover. (Refer to the section 1.1.1.)
(2) Loosen the four screws (2) to remove the left side cover.

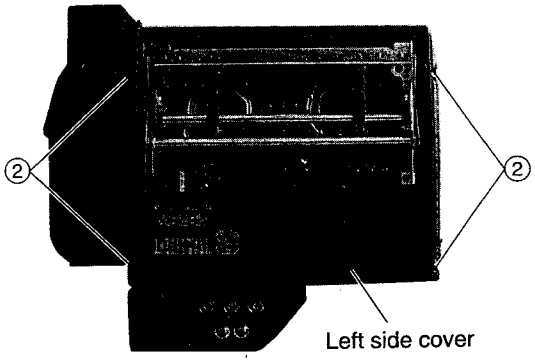


Fig. 1.1.2 (1) How to remove the left side cover

1.1.3 How to open the right side cover

(1) Loosen the four screws (3).

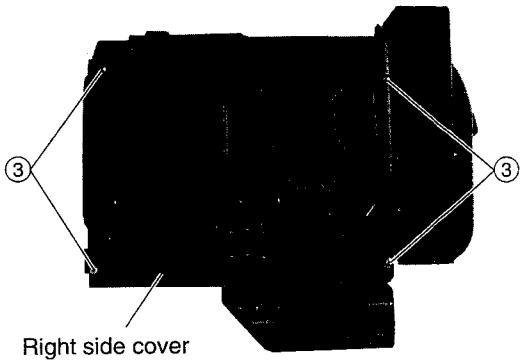


Fig. 1.1.3 (1) How to open right side cover

(2) Open the right side cover towards the front.

Fig. 1.1.3 (2) Diagram with the right side cover is open

1.1.4 How to remove the bottom cover

(1) Remove the four screws (4) and the two screws (5) to remove the bottom cover.

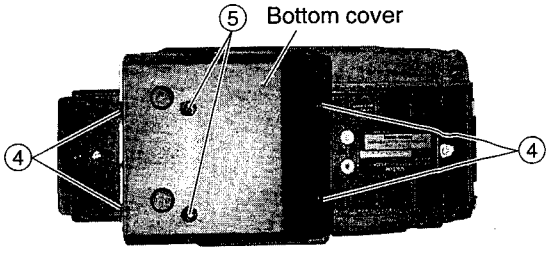


Fig. 1.1.4 (1) How to remove the bottom cover

1.2 HOW TO MAKE A DIAGNOSTICS OF THE MAIN BOARD

1.2.1 Main board layout diagram

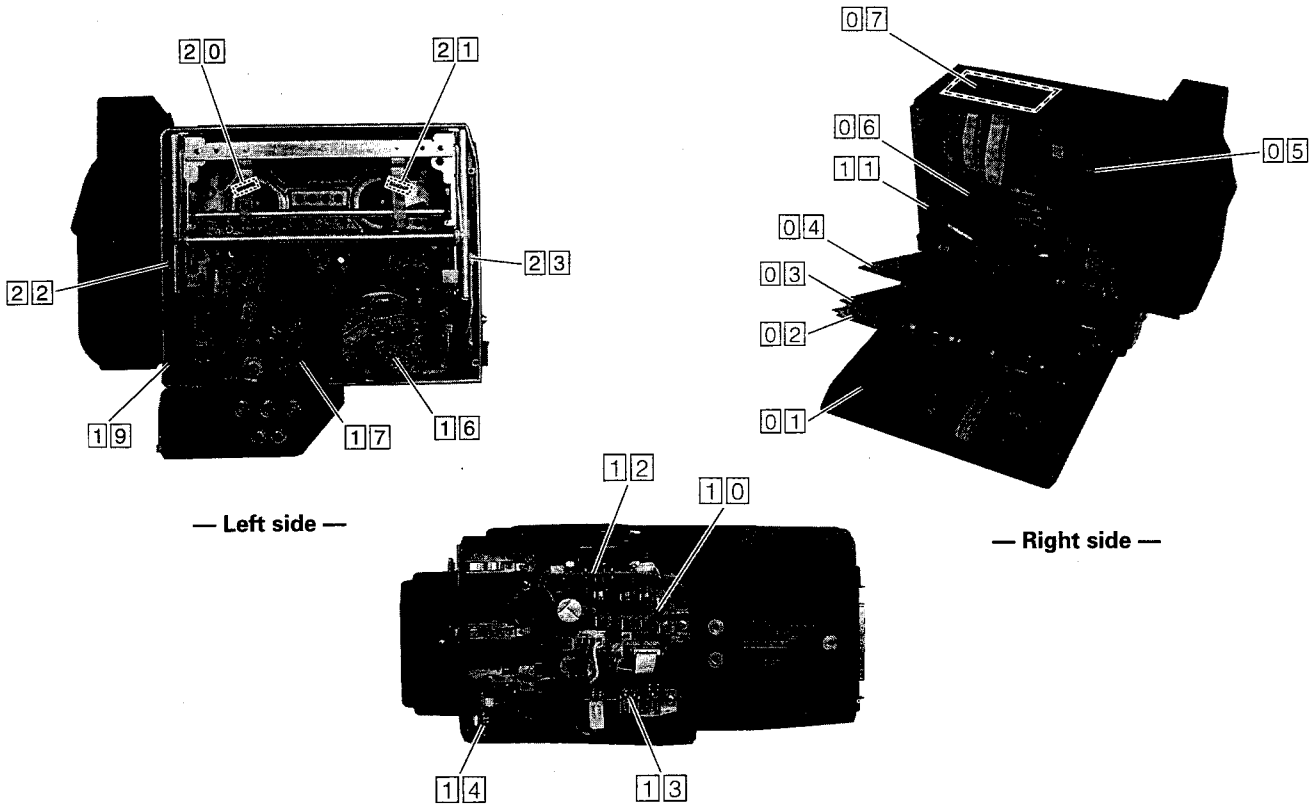


Fig. 1.2.1 Main Board layout diagram

Board name	Board layout position	Extension Board	Remarks
01 AUDIO & LCD	On the right side cover	Not necessary	Section 1.2.3
02 PV PROCESS 03 I/O SSG		KLJ0131	Section 1.1.2
04 RFP	On the side of right side cover	Not necessary	Section 1.2.4
05 S/S REG		Not necessary	
06 PRE/REC		Not necessary	Section 1.2.5
15 MECHA. IF		Not necessary	Section 1.2.6
11 50P CONN.		Not necessary	Section 1.2.7
07 OPERATION		Not necessary	
10 I/O JUNC.	Inside connector box	Not necessary	Section 1.2.8
12 CONNECTOR		Not necessary	
13 POWER SW		Not necessary	
14 DC OUT		Not necessary	
16 DRUM MDA	On the side of the left side cover	Not necessary	
17 A/C HEAD		Not necessary	
18 MODE SENSE		Not necessary	
19 AL SENSE		Not necessary	
20 TU REEL FG		Not necessary	
21 SP REEL FG		Not necessary	
22 BEGIN SENSE		Not necessary	
23 END SENSE		Not necessary	

Table 1-2-1

1.2.2 Diagnosis of the I/O SSG and the PV PROCESS boards

(1) Open the right side cover. (Refer to the section 1.1.3.)
→ **Adjustment of the I/O SSG board is available.**

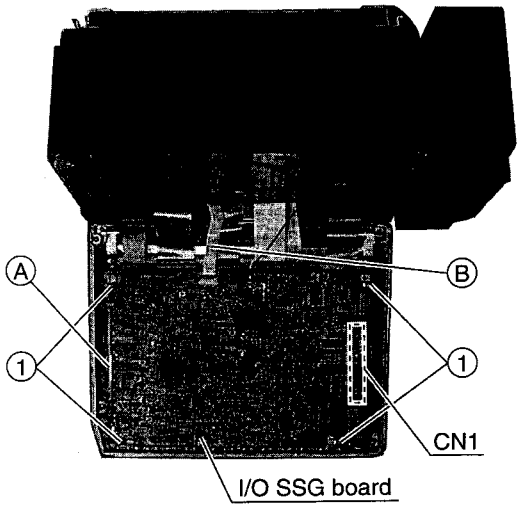


Fig. 1.2.2 (1) Diagnosis of I/O SSG board

(2) Remove the flat cable CN3 (B) on I/O SSG board and four screws (1).
(3) Lift the I/O SSG board up and remove CN1.
(4) Remove the flat cable (A).
(5) Remove two screws (2).

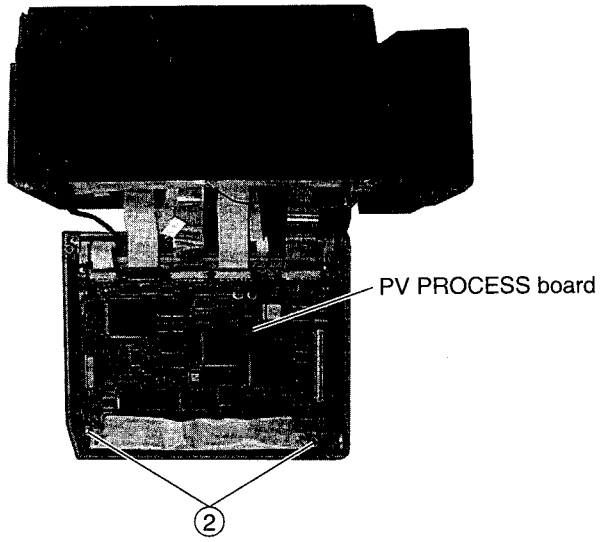
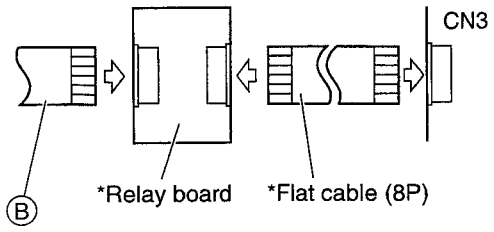


Fig. 1.2.2 (2)

(6) Connect the extension board kit (KLJ0131) as shown below.
→ **Diagnosis of the I/O SSG and PV PROCESS boards are available.**

① Connection between the flat cable B and CN3 on the I/O SSG board.



② Connection between CN2 on the I/O SSG board and CN1 on the PV PROCESS board.
→ **Connect the *flat cable (20P) between them.**
③ Connection between CN1 on the I/O SSG board and CN9 on the PV PROCESS board.
→ **Connect the *extension board between them.**
* : These parts are included in KLJ0131 Extension board kit.

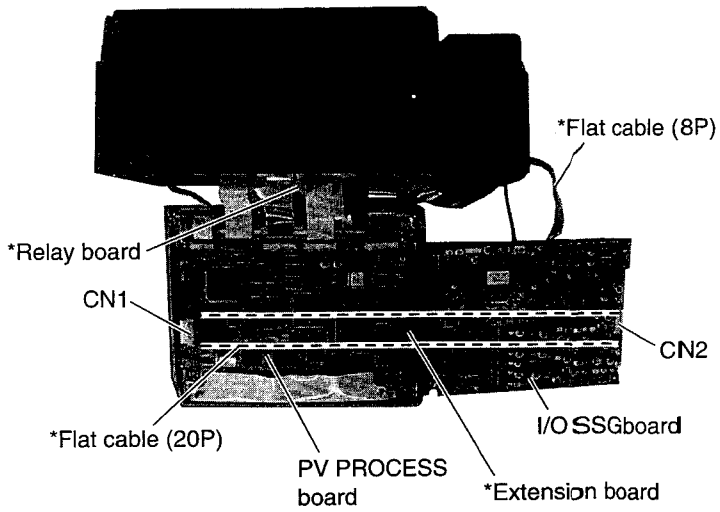


Fig. 1-2-2 (3) Connection of the extension board kit

1.2.3 Diagnostics of an AUDIO & LCD board

(1) Open the right side cover. (refer to the section 1.1.3)
(2) Remove two screws (3).

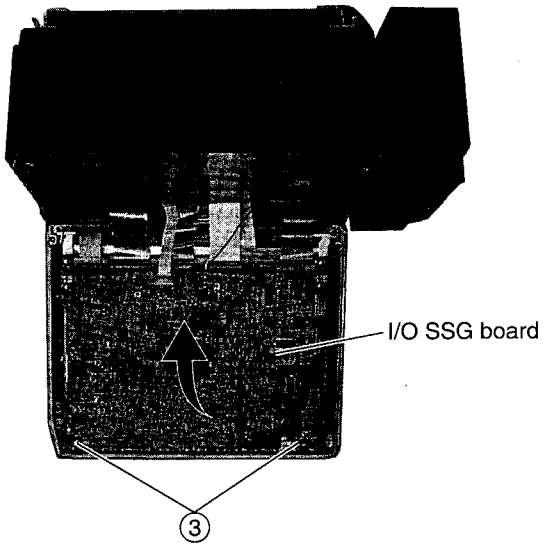


Fig. 1.2.3 (1)

(3) Open the I/O SSG board and the PV PROCESS board at the same time.
→ Adjustment of the AUDIO & LCD board is then possible.
(4) Remove the six screws (4) and the connectors CN6 and CN401.

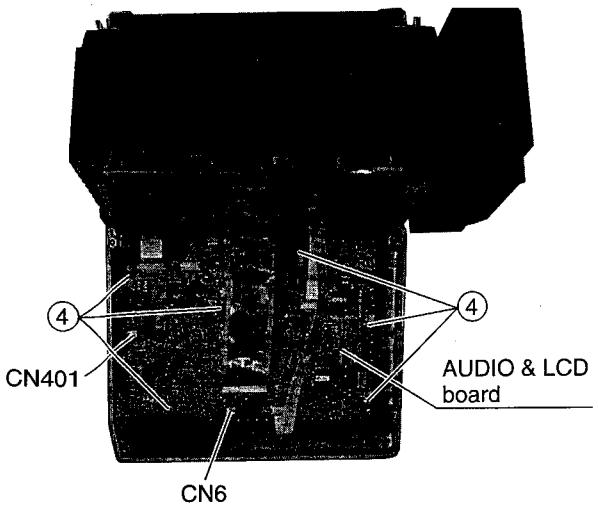


Fig. 1.2.3 (2) Adjustment position of the AUDIO & LCD board

(5) As shown in the Fig. 1.2.3 (3), while the AUDIO & LCD board is standing, the diagnosis is possible.

Caution: During diagnosis, the monitor speaker does not sound. Also, data cannot be backed up by the lithium battery.

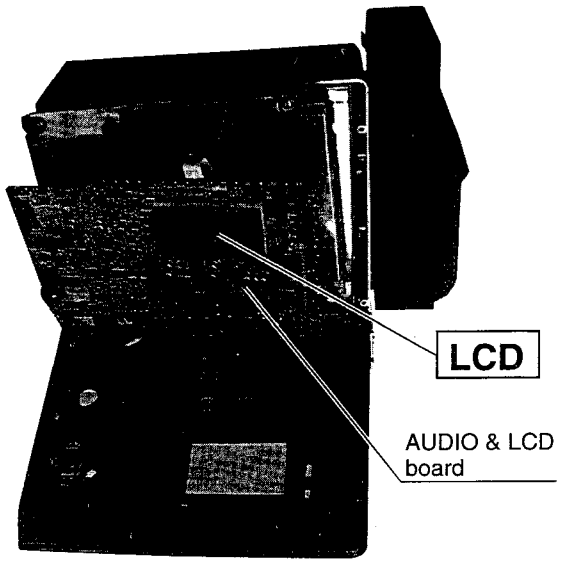


Fig. 1.2.3 (3) Diagnosis of the AUDIO & LCD board

1.2.4 Diagnosis of the RFP and S/S REG boards

(1) Open the right side cover. (Refer to the section 1.1.3.)

→ Diagnosis of the RFP board is possible when the shield plate is lifted.

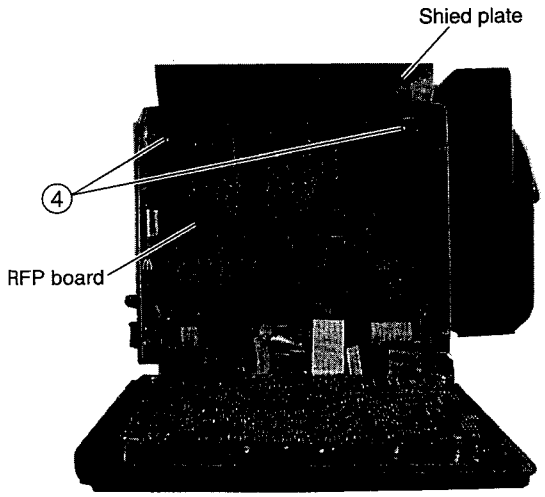


Fig. 1.2.4 (1) Adjustment position of the RFP board

(2) Remove the two screws ④ and put the RFP board down in front of you.

→ Diagnosis of the RFP board and adjustment of the S/S REG board are available.

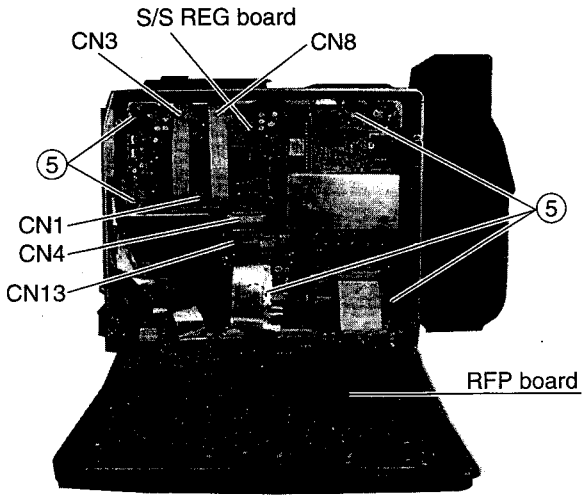


Fig. 1.2.4 (2) Diagnosis of the RFP board

(3) Remove the flat cables CN4 and CN13 of the S/S REG board.

(4) Remove the five screws ⑤.

(5) Connect the flat cables CN4 and CN13.

→ As shown in the Fig. 1.2.4 (3), tilt the S/S REG board to perform the diagnosis of the S/S REG board.

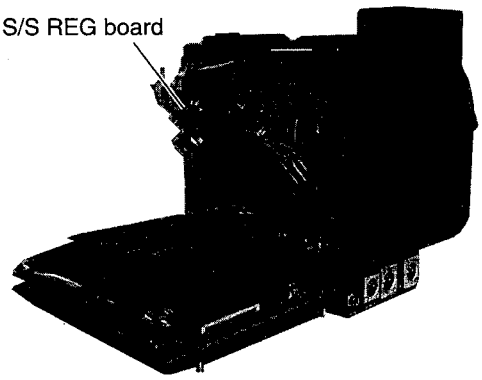


Fig. 1.2.4 (3) Diagnostics of the S/S REG board

1.2.5 Diagnosis of the PRE/REC board

(1) Open the RFP board and remove the flat cables CN4 and CN13 of the S/S REG board. (Refer to the section 1.2.4 (1) - (3).)

(2) Remove the shield cover of the PRE/REC board.

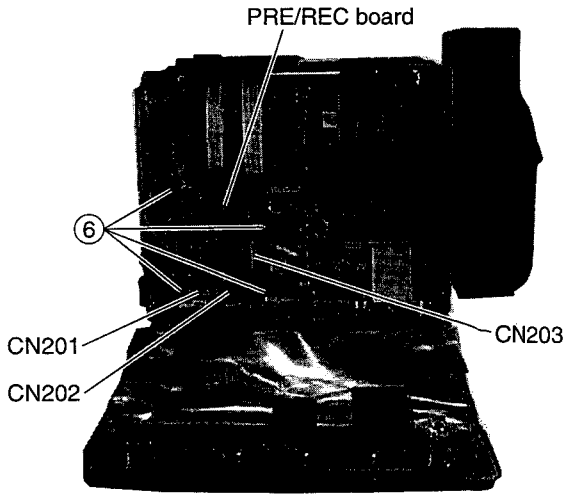


Fig. 1.2.5 (1)

(3) Remove the four screws ⑥ and the flat cables CN201 - CN203. Then remove the PRE/REC board.

(4) Remove the six soldered parts of the shield cover in order to remove the shield cover.

(5) Connect the flat cables CN201 - CN203, CN4 and CN13 again.

→ Diagnosis of the PRE/REC board is possible.

1.2.6 Diagnosis of the back side of the main deck

(1) Open the RFP board. (Refer to the section 1.2.4 (1) - (2).)
(2) Remove the flat cables CN1, CN3, CN4 and CN8 of S/S REG board. (Refer to Fig. 1-2-4 (2).)
(3) Remove the five screw (5) and put the S/S REG board down in front of you. (Refer to Fig. 1-2-4(2))
(4) Remove the PRE/REC board. (Refer to the section 1.2.5 (2) - (3).)
→ **The back side of the main deck is revealed.**

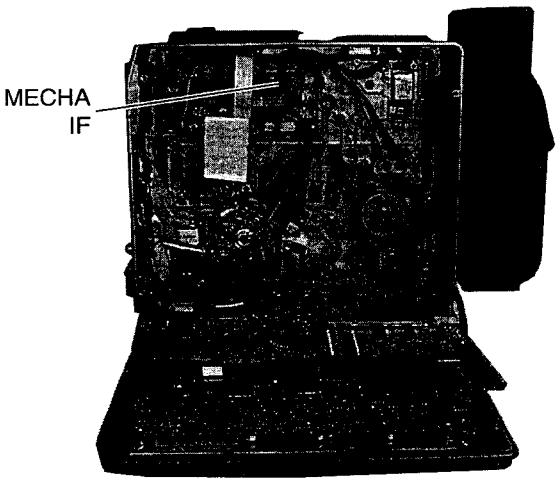


Fig. 1.2.6 Back side of the main deck

1.2.7 Diagnosis of the 50P CONN. board

(1) Remove the left side cover. (See the section 1.1.2.)
(2) Remove the screw (7) and then remove the ground lug.

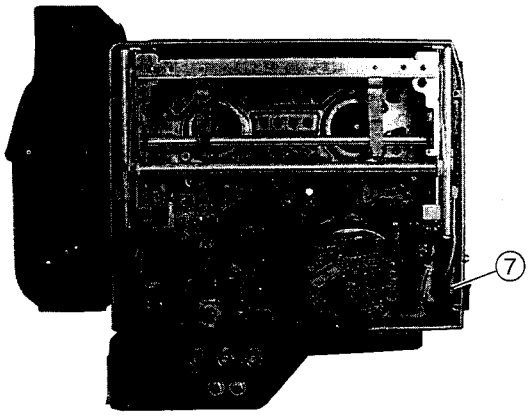


Fig. 1.2.7 (1)

(3) Open the right side cover. (See the section 1.1.3.)
(4) Remove the PRE/REC board. (See the section 1.2.5 (1) - (3).)
(5) Remove the CN202 and CN203 of the 50P CONN. board.

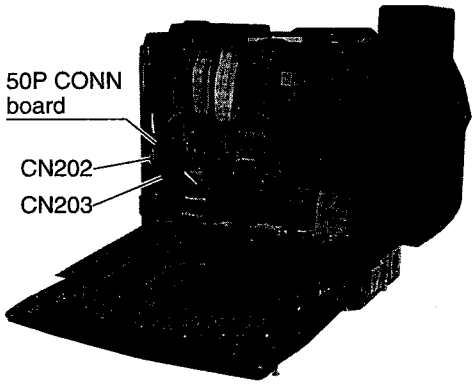


Fig. 1.2.7 (2)

(6) Remove two sets of screws (8) and (9).
(7) Remove the hook (A) inside the set, then remove the cover (B).

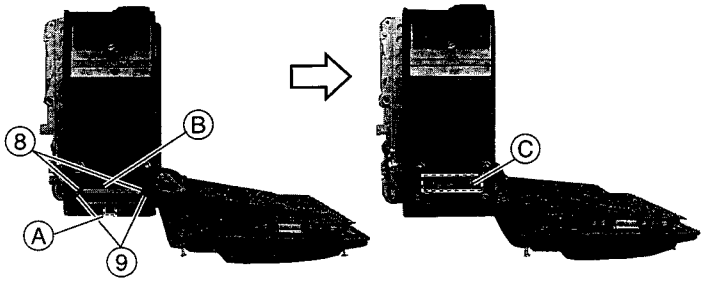


Fig. 1.2.7 (3)

(8) Slide the 50-pin connector upwards then towards the left to insert the right side of the 50-pin connector inside the set from the hole (C).
(9) Pull the 50-pin connector out from the side of the right side cover.
(10) Connect the connectors of 50P CONN. board and PRE/REC board.
→ **Diagnostics of the 50P CONN. board is possible.**

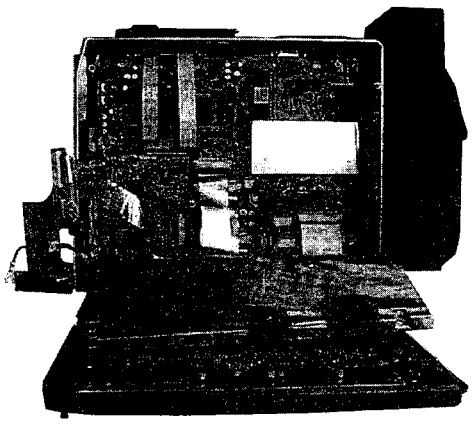


Fig. 1.2.7 (4) Diagnosis of the 50P CONN. board

1.2.8 Diagnosis and how to remove the I/O JUNC board

(1) Remove the bottom cover. (See the section 1.1.4.)

→ Diagnosis of the I/O JUNC, CONNECTOR and the POWER SW boards are then possible.

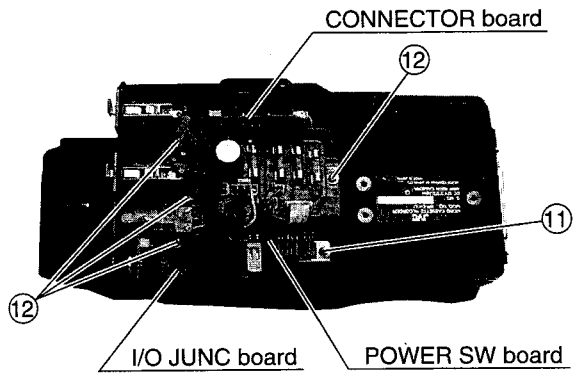


Fig. 1.2.8 (1)

(2) Remove the six screws ⑩ .

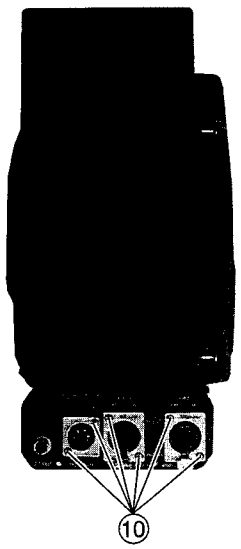


Fig. 1.2.8 (2)

(3) Remove all the connectors on the I/O JUNC board.
(4) Remove the screw ⑪ (Fig. 1.2.8 (1)), then remove the POWER SW board.
(5) Remove the CN101 of the CONNECTOR board.
(6) Remove the four screws ⑫ (Fig. 1.2.8 (1)), then remove the I/O JUNC board.

1.3 FUNCTIONS OF SWITCHES INSIDE THE S/S REG BOARD

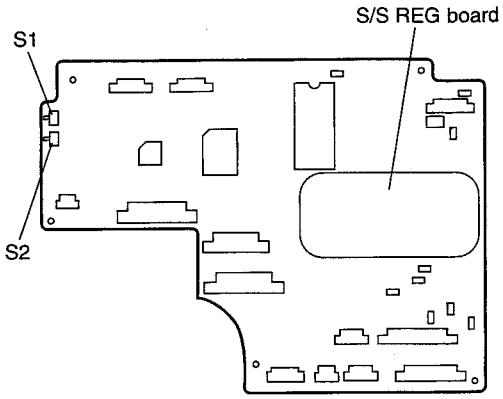


Fig. 1.3.1 Switch layout diagram inside the S/S REG board

- S/S REG board S1: NTSC/PAL Switch
  (At factory: U version = NTSC, E version = PAL)

  NTSC : Operates as an NTSC model.
  PAL : Operates as a PAL model. However, if no (625/50) signal is input, the playback of an (525/60) alignment tape is possible.

  Caution: The video adjustment values and the software, etc. are different between NTSC and PAL, therefore, just changing switches is not enough to be suitable for the version.

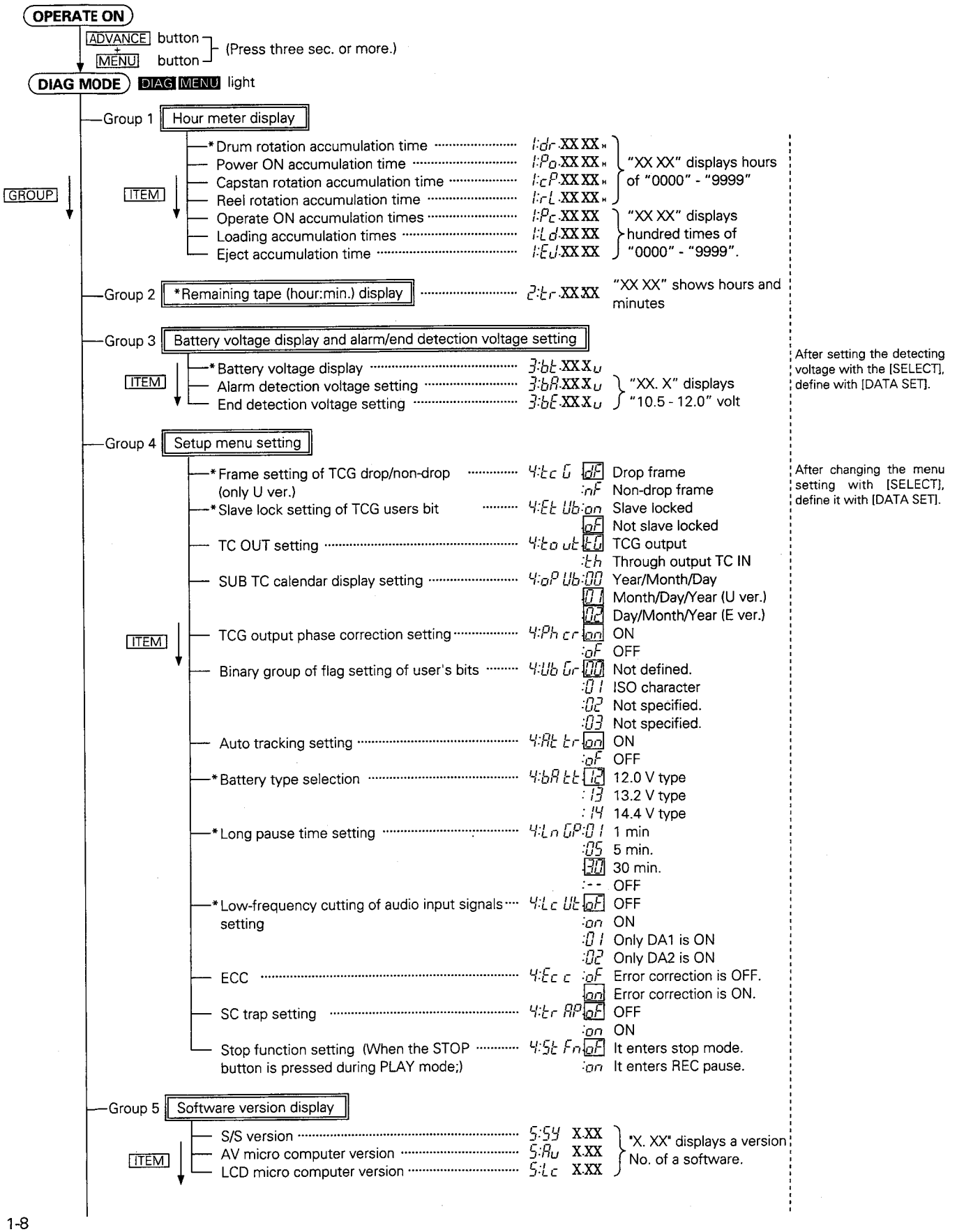
- S/S REG board S2: Waring cancellation switch
  (At factory: OFF)

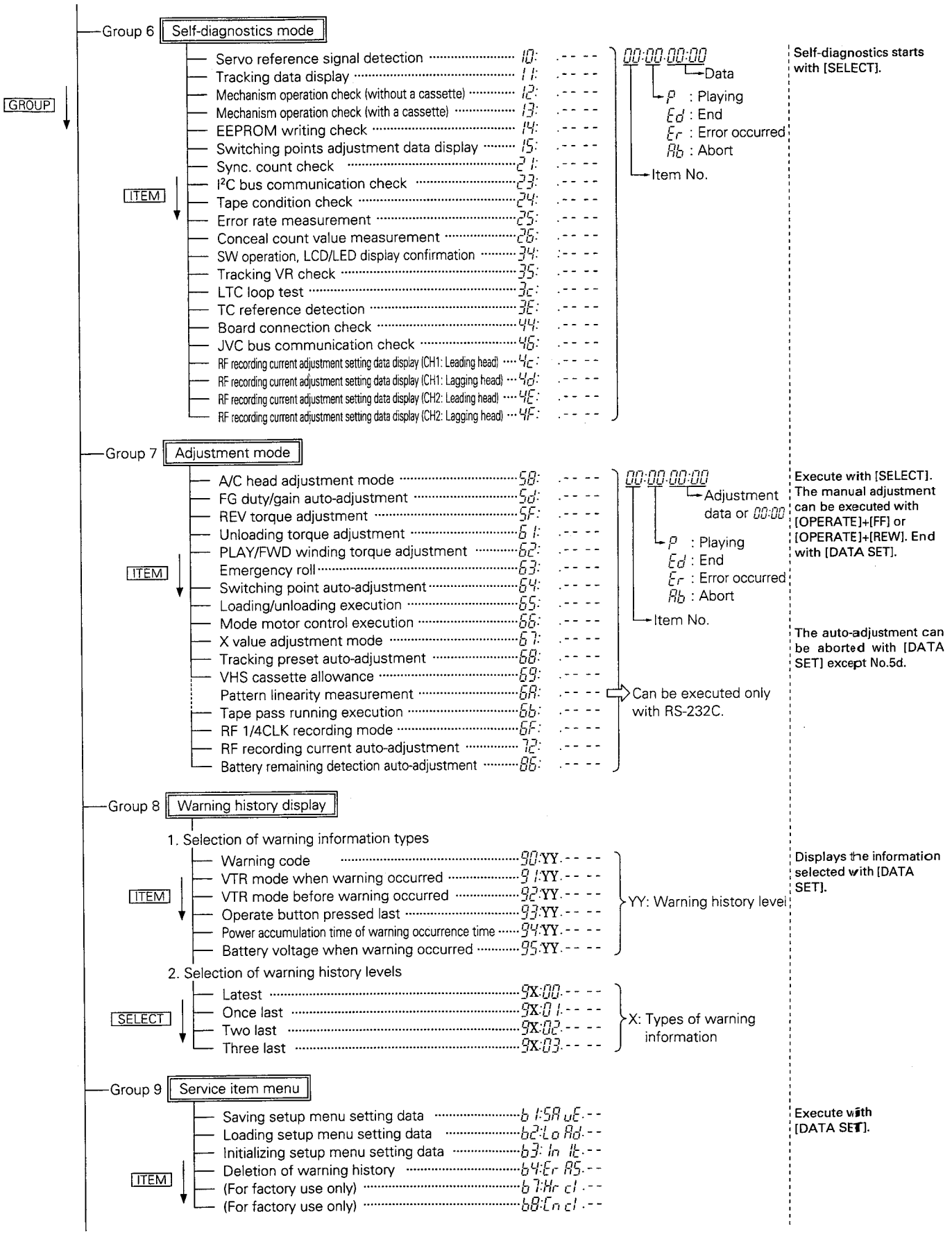
  This switch has to be OFF except when waring occurrence requires analysis.
  OFF : The warning detection circuit works.
  ON : (1) It does not enter the warning mode (excluding alarm display).
  (2) Mechanism operation is available without an AV micro computer (PV PROCESS board).
  (3) Without connecting a camera, it enters the recording mode when the "PLAY" botton and the operate cover switch are pressed simultaneously.

1.4 DIAG MODE

1.4.1 Structure of DIAG mode

DIAG mode is used for service operation. There are nine groups as shown in the Fig. 1.4.1.



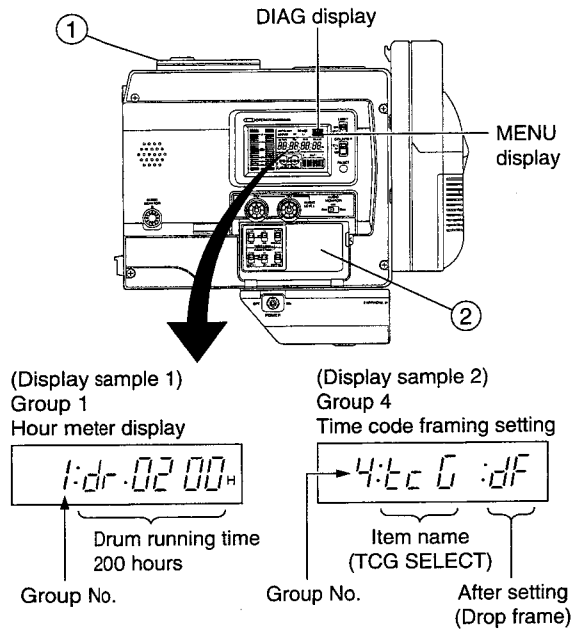

GROUP
ITEM
SELECT
Group 6 Self-diagnostics mode
Servo reference signal detection ····· 10: .-- --
Tracking data display ····· 11: .-- --
Mechanism operation check (without a cassette) ····· 12: .-- --
Mechanism operation check (with a cassette) ····· 13: .-- --
EEPROM writing check ····· 14: .-- --
Switching points adjustment data display ····· 15: .-- --
Sync. count check ····· 21: .-- --
I²C bus communication check ····· 23: .-- --
Tape condition check ····· 24: .-- --
Error rate measurement ····· 25: .-- --
Conceal count value measurement ····· 26: .-- --
SW operation, LCD/LED display confirmation ····· 34: :-- --
Tracking VR check ····· 35: .-- --
LTC loop test ····· 3c: .-- --
TC reference detection ····· 3E: .-- --
Board connection check ····· 44: .-- --
JVC bus communication check ····· 46: .-- --
RF recording current adjustment setting data display (CH1: Leading head) ···· 4c: .-- --
RF recording current adjustment setting data display (CH1: Lagging head) ···· 4d: .-- --
RF recording current adjustment setting data display (CH2: Leading head) ···· 4E: .-- --
RF recording current adjustment setting data display (CH2: Lagging head) ···· 4F: .-- --
00:00:00:00
Data
P : Playing
Ed : End
Er : Error occurred
Ab : Abort
Item No.
Self-diagnostics starts with [SELECT].
Group 7 Adjustment mode
A/C head adjustment mode ····· 58: .-- --
FG duty/gain auto-adjustment ····· 5d: .-- --
REV torque adjustment ····· 5F: .-- --
Unloading torque adjustment ····· 61: .-- --
PLAY/FWD winding torque adjustment ····· 62: .-- --
Emergency roll ····· 63: .-- --
Switching point auto-adjustment ····· 64: .-- --
Loading/unloading execution ····· 65: .-- --
Mode motor control execution ····· 66: .-- --
X value adjustment mode ····· 67: .-- --
Tracking preset auto-adjustment ····· 68: .-- --
VHS cassette allowance ····· 69: .-- --
Pattern linearity measurement ····· 6A: .-- --
Tape pass running execution ····· 6b: .-- --
RF 1/4CLK recording mode ····· 6F: .-- --
RF recording current auto-adjustment ····· 72: .-- --
Battery remaining detection auto-adjustment ····· 86: .-- --
00:00:00:00
Adjustment data or 00:00
P : Playing
Ed : End
Er : Error occurred
Ab : Abort
Item No.
Can be executed only with RS-232C.
Execute with [SELECT]. The manual adjustment can be executed with [OPERATE]+[FF] or [OPERATE]+[REW]. End with [DATA SET].
The auto-adjustment can be aborted with [DATA SET] except No.5d.
Group 8 Warning history display
1. Selection of warning information types
Warning code ····· 90:YY.-- --
VTR mode when warning occurred ····· 91:YY.-- --
VTR mode before warning occurred ····· 92:YY.-- --
Operate button pressed last ····· 93:YY.-- --
Power accumulation time of warning occurrence time ····· 94:YY.-- --
Battery voltage when warning occurred ····· 95:YY.-- --
YY: Warning history level
2. Selection of warning history levels
Latest ····· 9X:00.-- --
Once last ····· 9X:01.-- --
Two last ····· 9X:02.-- --
Three last ····· 9X:03.-- --
X: Types of warning information
Displays the information selected with [DATA SET].
Group 9 Service item menu
Saving setup menu setting data ····· b1:SAuE.--
Loading setup menu setting data ····· b2:Lo Ad.--
Initializing setup menu setting data ····· b3: In it.--
Deletion of warning history ····· b4:Er AS.--
(For factory use only) ····· b7:Hr cl.--
(For factory use only) ····· b8:Cn cl.--
Execute with [DATA SET].

1.4.2 How To Select Items

(1) Set the [POWER SW] to ON, then open the operation cover ①.

(2) Initiate DIAG mode.
Open the door ② at the TIME CODE/SETUP MENU setting section, then hold the [MENU] button for three sec. or more while pressing the [ADVANCE] button.

→ **[MENU] and [DIAG] display blink on the display and the DIAG menu appears on the counter display.**



(3) Select a group.
Switch the group display of the counter display by pressing the [GROUP] button.

[Group No. display]

Group 1 :"1" — Hour meter display and individual reset (7 items. See Fig. 1.4.1.)

Group 2 : "2"— Remaining tape (hour:min.) display (1 item. See Fig. 1.4.1.)

Group 3 :"3" — Battery voltage display and alarm/end detection voltage setting (3 items. See Fig. 1.4.4.)

Group 4 :"4" — Setup menu setting (13 items. See Fig. 1.4.5.)

Group 5 :"5" — Software version display (3 items. See Fig. 1.4.6.)

Group 6 :"10" - "4F" — Self-diagnosis mode (21 items. See Fig. 1.4.7.)

Group 7 :"58" - "86" — Adjustment mode (17 items. See Fig. 1.4.1.)

Group 8 :"9 " — Warning history display (6 items. See Fig. 1.4.9.)

Group 9 :"b " — Service item menu (6 items. See fig. 1.4.10)

(4) Select the item in the group.
Pressing the [ITEM] button allows display of the desired item on the counter display.

1.4.3 How to end the DIAG mode

Pressing the [MENU] button ends the DIAG mode.

1.4.4 How to set the battery alarm/end detection voltage setting (Group 3)

Alarm/end detection voltage setting can be set with the voltage values while 12 V battery is used. Which means that the alarm/end is detected at a voltage with 1.1 times the display voltage with a 13.2 V battery and 1.2 times with a 14.4 V battery.

Example) Setting with 10.5 V: 13.2 V type→10.5 x 1.1 =11.6 V
14.4 V type→10.5 x 1.2 = 12.6 V

[How to operate]

(1) Initiate the DIAG mode and display the following items. (See the section 1.4.2.)

- Alarm detection voltage display
  3:bA.XXXU (Factory setting: 11.1 V)
- End detection voltage display
  3:bE.XXXU (Factory setting: 10.5 V)

(2) Set the detection voltage by pressing the [SELECT] button.

→ Display data blinks. The display data increase every 0.1 V each time the [SELECT] button is pressed.

→ While the display data is blinking, pressing the [MENU] button allows display of the "Abort" sign for approx. two sec., then the DIAG mode ends without saving the data.

3:-Abort

(3) Press the [DATA SET] button.

→ The setting data is saved in the EEPROM. During saving, the SAVE display appears for one sec.approx.

3:-SAvE-

If the alarm detection voltage is set lower than the end detection voltage, the alarm display occurs when the battery voltage falls to the alarm detection voltage. End display appears in several seconds regardless of the end detection voltage.

1.4.5 How to set the setup menu (Group 4)

With a setup menu setting of DIAG mode, menu settings for both users and services are available.

(1) Initiate the DIAG mode and select the setup menu item. (See the section 1.4.2.)

(2) Select the setting values with the [SELECT] button.

(3) Press the [DATA SET] button.

→ The setting data is saved in the EEPROM. During saving, the SAVE display appears for one sec.approx.

3:-SAvE-

Menu names	Counter displays	Details
TCG DROP/NON-DROP (only U version)	4:tc G :dF :nF	Menu for users (See page 21 of the instruction manual.)
U-BIT SLAVE ON/OFF	4:Et Ub:on :oF	Menu for users (See page 21 of the instruction manual.)
TC OUT	4:to ut:tG :th	Selection of TC OUT terminal output tG: Time code generator output th: Through output of TC IN terminal input
SUB TC DATE STYLE	4:oP Ub:00 :01 :02	Selection of the data order of the SUB TC U-BIT (Year/Month/Day calendar) 00: Year/Month/Day 01: Month/Day/Year 02: Day/Month/Year
PHASE CORRECTION	4:Ph cr:on :oF	Selection whether to execute the phase compensation of TC OUT terminal output on: Execute the phase compensation oF: Not execute the phase compensation
U-BIT BINARY GROUP FLAG	4:Ub Gr:00 :01 :02 :03	Setting of the binary group flag of the user's bits 00: Not appointed as character sets 01: ISO character 02/03: Not specified
AUTO TRACKING	4:At tr:on :oF	Selection whether to operate the auto tracking during the PLAY mode. on: Operate oF: Not operate. At this time, the tracking VR inside the connector box is effective.
BATT. TYPE	4:bA tt: 12 : 13 : 14	Menu for users (See page 21 of the Instruction manual.)
LONG PAUSE TIME	4:Ln GP:01 :05 :30 :--	"- -" (prohibition of long pause) cannot be set at the menu for users (see page 21 of the Instruction manual).
AUDIO LOW CUT-IN	4:Lc Ut:on :oF :01 :02	Menu for users (See page 21 of the Instruction manual.)
ECC	4:Ec c :on :oF	ON/OFF of the cancellation circuit of the error compensation on: Compensation errors. oF: Non compensation errors.
TRAP	4:tr AP:on :oF	ON/OFF of SC trap circuit of the video output system on: Operate trap circuit. oF: Not operate trap circuit.
STOP FUNCTION	4:St Fn:on :oF	Operation when the STOP button is pressed during the PLAY mode. on: REC PAUSE initiates after rewinding the amount of back space. oF: STOP mode initiates.

Table 1.4.5 (1) Setup menu

1.4.6 Software version display (Group 5)

These items allow confirmation of software versions in use without removing the outer case of the set. The details of the displays are shown below.

Menu names	Counter display	Board names Symbol No.	Remarks
SYSCON/SERVO version	5:SY X.XX	S/S REG board IC9	PLSL1019-VX-XX
AV micro computer version	5:Au 1.XX	PV PROCESS board IC18	UPD78P58YGC-2XX (U ver.) UPD78P58YGC-4XX (E ver.)
LCD micro computer version	5:Lc 1.XX	AUDIO & LCD board IC401	UPD78P054GC-4XX (U ver.) UPD78P054GC-5XX (E ver.)

Table 1.4.6 (1) Software version display

1.4.7 Self-diagnosis mode (Group 6)

Twenty-one menus are provided in the self-diagnosis mode to check the internal operation of the set. Pressing the [SELECT] button after selecting a menu allows starting of the self-diagnosis.
At this time, the following displays appear on the counter display.

XX: .-- -- Display during the menu selection.
XX:P .YY YY Display during menu execution.
XX:Ed.YY YY Display when menu ends.
XX:Er.YY YY Display when error occurs.
XX:Ab.YY YY Display when menu is aborted.

Data
Menu No.

(1) Detection of servo reference signal

10: .-- --

This menu allows checks if the servo reference signal is being supplied normally to the S/S micro computer.

[How to operate]

During the above a menu is displayed, the result of the diagnosis is displayed when the [SELECT] button is pressed.

- Normal 10:Ed.00 00
- Abnormal 10:Er.00 00

If an error display appears, check if the TSR signals (75 Hz) generated from DCI-P (PV PROCESS board IC8-pin120) is supplied to the S/S micro computer (S/S REG board IC14-pin67).

(2) Tracking data display

11: .-- --

This menu allows display of the present tracking phase data.

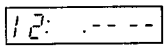
[How to operate]

During the above a menu is displayed, the tracking data (hexadecimal number) is displayed when the [SELECT] button is pressed.

Display sample 11:Ed.05:bF

In case the tracking data during the alignment tape MSHP-X playback is out of the area either the "6097" H - "61C1" or the "0000" H - "0EA8" H, X values may be misadjusted.

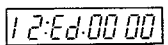
(3) Mechanism operation check (without a cassette)

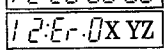


This menu is used for checking the mechanism operation.

[How to operate]

With the above display, pressing the [SELECT] button allows the starting of the mechanism automatically without inserting a cassette tape to check if there is any abnormality in the mechanism. The result of the diagnoses is displayed as follows.

- Normal 

- Abnormal 

In the data area of the error display, the data "X", "Y" and "Z" (hexadecimal number) which indicate abnormal points are displayed. Correspond them to the table below in order to detect any abnormal occurrence points. In the tables, the mark "○" is provided for the points where an abnormality occurs. For example, if "12: ER. 00 40" is displayed, it means that data "Y" is "4", so that you can tell that the abnormality of "Capstan motor does not rotate" has occurred by Table 1.4.7 (2).

Display "X"	0	1	2	3
Unloading failed.			○	○
Loading failed.		○		○

Table 1.4.7 (1) Mechanism operation abnormality display "X"

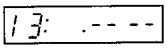
Display "Y"	0	1	2	3	4	5	6	7
Capstan motor does not rotate.					○	○	○	○
Drum motor does not rotate.			○	○			○	○
Reel brake does not work.		○		○		○		○

Table 1.4.7 (2) Mechanism operation abnormality display "Y"

Display "Z"	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
TU reel does not rotate.									○	○	○	○	○	○	○	○
SUP reel does not rotate.					○	○	○	○					○	○	○	○
Condensation has occurred.			○	○			○	○			○	○			○	○
Tape LED abnormality		○		○		○		○		○		○		○		○

Table 1.4.7 (3) Mechanism operation abnormality display "Z"

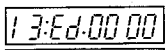
(4) Mechanism operation check (with a cassette)

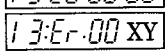


This mode is used for checking a mechanism operation.

[How to operate]

During the above displays, inserting a cassette tape allows the start of the mechanism automatically in order to diagnose if there is any abnormality.

- Normal 

- Abnormal 

In the data area of the error display, the data "X" and "Y" (hexadecimal numbers) which indicate abnormal points are displayed. Correspond them to the table below to detect any abnormal occurrence points. In the table below, the mark "○" is provided for the points where an abnormality occurs.

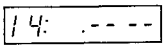
Display "X"	0	1	2	3	8	9	A	b
Unloading failed.					○	○	○	○
Loading failed.			○	○			○	○
TU reel abnormality		○		○		○		○

Table 1.4.7 (4) Mechanism operation abnormality display "X"

Display "Y"	0	2	4	6	8	A	c	E
SUP reel abnormality					○	○	○	○
End sensor abnormality			○	○			○	○
Begin sensor abnormality		○		○		○		○

Table 1.4.7 (5) Mechanism operation abnormality display "Y"

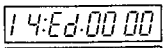
(5) EEPROM writing check

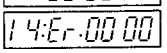


This menu allows checks if the data has been written to EEPROM (S/S REG board IC34) correctly or not.

[How to operate]

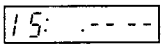
During the above display, pressing the [SELECT] button allows a start of the diagnosis and displays the results as follows.

- Normal 

- Abnormal 

In case an error display appears, the EEPROM may be damaged.

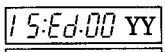
(6) Switching points check

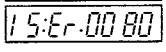


This menu allows us to measure the switching points during playback.

[How to operate]

After pressing the [SELECT] button during the above display, insert a cassette tape in order to initiate the PLAY mode. An S/S micro computer starts measuring the switching points and displays the results of the measured data (hexadecimal numbers) as follows.

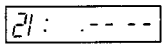
- Measured value display 

- Error display 

(In the case that measuring was impossible)

The measured data "YY" should be in the area between "0C" H - "F4" H. If it is out of this area or an error display appears, check the switching point auto-adjustment (Menu No. 64) and also if an HID signal (position information of a rotation head) and SPA signal (recording position information of ITI signal on the tape pattern, S/S REG board IC14-pin56) are correctly supplied to S/S micro computer.

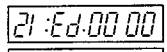
(7) Sync. count check

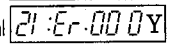


This menu allows us to check if the DCI-P (PV PROCESS board IC8) can read the playback signal data correctly or not.

[How to operate]

After pressing the [SELECT] button during the above display, insert a cassette tape in order to initiate the PLAY mode. The DCI-P starts checking the sync. data playback signals for each head and displays the result as follows.

- Normal 

- Abnormal 

In case the data cannot be detected correctly, an error display as above appears.

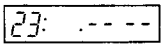
Correspond the display data "Y" to the table below in order to find out which head's output has an abnormality.

Display "Y"	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
CH2 Primary head									○	○	○	○	○	○	○	○
CH2 Trailing head					○	○	○	○					○	○	○	○
CH1 Primary head			○	○			○	○			○	○			○	○
CH1 Trailing head		○		○		○		○		○		○		○		○

Table 1.4.7 (6) Sync. count error data

In case the error display appears, there may be some dust on the rotation head or its service life is coming to an end, also the RF equalizer (RF PROCESS board IC301, IC401) may be misadjusted or DCI-P (PV PROCESS board IC8) may be damaged.

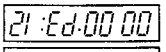
(8) I²C bus communication check

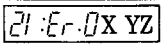


This menu allows us to diagnose if the AV micro computer (PV PROCESS board IC18) communicates correctly with each of the digital process ICs on the PV PROCESS board.

[How to operate]

During the above display, pressing the [SELECT] button allow us to start diagnosis and display results as follows.

- Normal 

- Abnormal 

If any communication error occurs, data "X", "Y" and "Z" which indicate the abnormality points are displayed on the above error display. Correspond them to the table below in order to find out in which IC the communication abnormality has occurred.

Display "X"	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
AUDIO-2 (IC352)									○	○	○	○	○	○	○	○
AUDIO-1 (IC351)					○	○	○	○					○	○	○	○
SHUFF (IC9)			○	○			○	○			○	○			○	○
ECC-2 (IC43)		○		○		○		○		○		○		○		○

Table 1.4.7 (7) I²C bus communication error data "X"

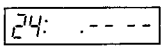
Display "Y"	0	4	8	c
ECC-1 (IC41)			○	○
DCI-P (IC8)		○		○

Table 1.4.7 (8) I²C bus communication error data "Y"

Display "Z"	0	1
DCI-R (IC7)		○

Table 1.4.7 (9) I²C bus communication error data "Z"

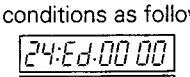
(9) Tape condition check



This menu judges the tape playback condition from the numbers of errors detected by DCI-P (PV PROCESS board IC8) during playback and displays the results classified by four different levels.

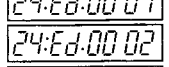
[How to operate]

During the above display, press the [SELECT] button, then insert a cassette tape to initiate the PLAY mode to display the tape conditions as follows.

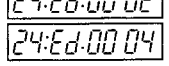


Hardly any errors

Some errors



Many errors



Normal playback is not possible.

If error rate level "4" is displayed, there may be some dust on the rotation head or its service life is coming to an end, The RF equalizer (RFP board IC301, IC401) may be misadjusted or the DCI-P (PV PROCESS board IC8) may be damaged.

(10) Error rate measurement

25: .-- --

This menu displays how many inner errors have occurred at the sync. block during two frames.

[How to operate]

Press the [SELECT] button, then insert a cassette tape to initiate the PLAY mode in order to display the error rate (hexa-decimal numbers) as follows.

25:Ed.00 YY

(11) Concealed count

26: .-- --

This menu displays the numbers of error corrections of the video data carried out by the ECC (PV PROCESS board IC41, IC43) per frame.

[How to operate]

Press the [SELECT] button, then insert a cassette tape in order to initiate the PLAY mode. The AV micro computer starts measuring the concealed count values in order to display the result as follows.

26:Ed. YY YY

(12) SW operation, LCD/LED display confirmation

34: .-- --

This menu is used for checking if the OPERATE SW and LED/LCD displays are operating correctly.

[How to operate]

Press the [SELECT] button to initiate this menu. The operation check is available with the following procedures.

- While the FF, REW, STOP, PLAY or EJECT button is pressed, the corresponding LED lights.
- While the [PRESET] button is pressed, all the segments of LCD light.
- While the [RESET] button is pressed, all the segments of the LCD turn off.
- The switch operation can be checked with a display on the COUNTER DISPLAY.

34:P .AB CD

A: [COUNTER] switch setting
2: "UB" side, 1: "TC" side, 0: "CTL" side

B: [TC GENERATOR] switch setting
1: "PRESET" side, 0: "REGEN" side

C: [TC GENERATOR] switch setting
1: "REC" side, 0: "FREE" side

D: [TC DISP] switch setting
1: "TC" side, 0: "SUB TC" side

(13) Tracking VR test

35: .-- --

This menu is used for an operational check of the tracking VR inside a connector box.

[How to perform the operation]

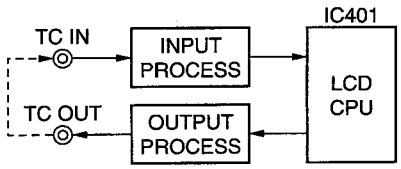
Set the auto tracking setting "4: At tr" of the setup menu to "oF", then select the tracking VR test "35: .-- --". In this condition, pressing the [SELECT] button allows to display 35:P .00 YY

When the tracking VR is turned on, if the display data varies beyond the area between "40" - "C0", the tracking VR is normal.

(14) LTC loop test

3c: .-- --

This menu diagnoses the input/output circuit of the LTC by checking if the LTC reader (AUDIO&LCD board IC401) correctly reads the test signals generated from the LTC generator (AUDIO&LCD board IC401).



[How to operate]

During the above display, press the [SELECT] button, then carry out the loop connection between the TC IN terminal and the TC OUT terminal.
The results of the diagnostics are displayed as follows.

- During execution 3c:P .00 00 (if the loop connection is now provided, the display will not be changed.)
- Normal 3c:Ed.00 00
- Abnormal 3c:Er.00 00

(15) TC reference signal detection

3E: .-- --

This menu allows to check if any FRP signals (AUDIO&LCD board IC401 - pin64) which are standard for the running of the time code data, are being supplied to the TC generator.

[How to operate]

During the above display, pressing the [SELECT] button allows to start diagnostics and displays the results as follows.

- Normal 3E:Ed.00 00
- Abnormal 3E:Er.00 00

(16) Board connection check

44: .-- --

This menu allows us to check if the FFC cable provided between the S/S REG board and each board are connected properly.

[How to operate]

During the above display, pressing the [SELECT] button allows us to start the diagnosis and displays the results as follows.

- Normal 44:Ed.00 00
- Abnormal 44:Er.XY Z0

In case there is a malfunction in the FFC cable connections, the data "X", "Y" and "Z" (hexadecimal numbers) indicates abnormal points with the above error display. Correspond them to the table below in order to find out in which board connected to the S/S REG board has the FFC cable connection malfunction occurred.

Display "X"	0	1
OPERATION board CN1		○

Table 1.4.7 (10) Board connection check error data "X"

Display "Y"	0	2	8	A
MECHA I/F board CN1			○	○
RFP board CN604		○		○

Table 1.4.7 (11) Board connection check error data "Y"

Display "Z"	0	2	8	A
AUDIO&LCD board CN8			○	○
PV PROCESS board CN10		○		○

Table 1.4.7 (12) Board connection check error data "Z"

(17) JVC bus communication check

46: .-- --

This menu allows to diagnose if the S/S micro computer (master CPU) and each slave CPU (AV micro computer, LCD micro computer) are communicating correctly.

[How to operate]

During the above display, pressing the [SELECT] button allows to start the diagnosis and displays the results as follows.

- Normal 46:Ed.00 00
- Abnormal 46:Er.001 X (X : 3 = AV micro computer, 5 = LCD micro computer)

When any communication error occurs, it locates which of the communications with the CPU caused the error and displays the information on the above error display.

(18) RF record current adjustment data display

4C: .-- -- CH1 Leading head
4D: .-- -- CH1 Lagging head
4E: .-- -- CH2 Leading head
4F: .-- -- CH2 Lagging head

This menu is used for confirming the adjustment values set by a recording current auto adjustment.

[Operation]

During the above display, pressing the [SELECT] button allows us to display the adjustment values for each head with hexadecimal numbers.

4C:Ed.00 YY CH1 Leading head adjustment data
4D:Ed.00 YY CH1 Lagging head adjustment data
4E:Ed.00 YY CH2 Leading head adjustment data
4F:Ed.00 YY CH2 Lagging head adjustment data

1.4.8 Adjustment mode (Group 7)

There are two menus which are provided for the adjustment mode; an auto adjustment menu to carry out the adjustment automatically and a setting menu to initiate the adjustment mode. How to execute each menu is explained in the corresponding adjustment item or the table below.

Menu names	Display	VTR operation	Remarks
Search audio x1 playback	5B: -- -- (while menu is selected)	Search audio is output during the PLAY mode. It accepts a VHS cassette, then the tape is run with the VHS SP mode speed. However, the picture and the HiFi audio cannot be played back.	2.10.3 A/C head azimuth adjustment 2.10.4 A/C head height adjustment
Capstan FG duty/gain auto adjustment	5d: -- -- (while menu is selected)	Adjust the duty ratio of the capstan FG to 50%. Carry out the gain adjustment of the capstan FG. (stop servo adjustment) No operation can be executed during the auto adjustment.	3.5.1 Capstan motor automatic adjustment

Table 1.4.8 (1) Adjustment modes-1/3

Menu names	Display	VTR operation	Remarks
Reverse torque adjustment	5F: - - - - (while menu is selected)	It accepts a torque cassette for the VHS. Winding torque adjustment during the running of the REV is available. While the menu is being executed, the tape is always run by a capstan motor drive even if the FF/REW button is pressed. The tape speed of the search REV mode is then fixed to -1X speed.	2.9.2 Reverse torque adjustment
Unloading the torque adjustment	61: - - - - (while menu is selected)	It accepts a torque cassette for the VHS. During the search REV mode, the supply reel is rotated with a winding torque while unloading. While the menu is executed, the tape is always run by a capstan motor drive even if the FF/REW button is pressed. The tape speed of the search REV mode is fixed to -1X speed.	2.9.1 Unloading torque adjustment
PLAY torque adjustment	62: - - - - (while menu is selected)	It accepts a torque cassette for VHS. A winding torque adjustment of the take-up reel during the FWD is available. While the menu is executed, the tape is always run by a capstan motor drive even if the FF/REW button is pressed. The tape speed of the search REV mode is fixed to normal speed.	2.9.3 PLAY torque adjustment
Emergency roll mode	63: - - - - (while menu is selected)	In case abnormal tape slack occurs, it drive the reel motor with low torque to wind up the slacked tape.	Refer to the section 1.10 How To Eject The Tape In Emergency.
Switching point auto adjustment	64: - - - - (while menu is selected)	The switching point adjustment is carried out automatically.	3.5.3 Playback switching point adjustment
Manually loading/unloading	65: - - - - (while menu is selected) 65:P 00 00 (during playing) 65:Ed 00 00 (end)	The loading and unloading can be carried out without inserting a cassette. If a cassette is already inserted, it eject the cassette, then starts this menu.	[How to operate] Select the menu with the [SELECT] button, then press the button below while pressing the [OPERATE] button. [FF] : Loading [REW] : Unloading
Manual loading motor control	66: - - - - (while menu is selected) 66:P 00 00 (during playing) 66:Ed 00 00 (end)	The loading motor can be rotated manually without inserting a cassette. If a cassette is already inserted, it eject the cassette, then start this menu.	[How to operate] Select the menu with the [SELECT] button, then press the button below while pressing the [OPERATE] button. [FF] : Rotates for 34 ms towards the loading direction [REW] : Rotates for 34 ms towards the unloading direction

Table 1.4.8 (1) Adjustment modes-2/3

Menu names	Display	VTR operation	Remarks
X value adjustment	67: - - - - (while menu is selected)	Auto tracking becomes OFF. Tracking the VR becomes invalid and playback starts at the tracking preset position.	2.10.5 X value adjustment
Tracking Preset auto adjustment	68: - - - - (while menu is selected)	The tracking is varied and the tracking position where an RF level becomes maximum, is searched automatically.	3.5.2 Tracking preset adjustment
VHS cassette acceptance	69: - - - - (while menu is selected)	It accepts a VHS cassette.	[How to operate] [SELECT]: Play [DATA SET] : End
Linearity measurement	6A: - - - - (while menu is selected)	Linearity measurement mode is initiated with the RS-232C control. Auto tracking becomes OFF and the tracking VR becomes invalid.	2.12 CHECK OF LINEARITY
Tape pass running	6b: - - - - (while menu is selected) 6b:P .000Y (while running is executed) 6b:Ed.000F (when the 15 passes are completed) 6b:Er.000Y (Error display)	When a cassette is inserted, it repeats PLAY mode (8 times) and SRH REV mode (7 times) on the same section of the tape (approx. 30 sec.), then eject the tape. While the running is being executed, the number of the executed running is displayed at "Y" with hexadecimal numbers. While the running is being executed, if the [DATA SET] button is pressed or the VTR mode is changed, or a tape end is detected during PLAY, an error message is displayed.	[How to operate] Select the menu by pressing the [SELECT] button, then insert a cassette on which a recording has been done.
RF REC1/4 CLK	6F: - - - - (while menu is selected) 6F:P .0000 (during recording) 6F:Ed.0000 (END)	Recording 1/4-divided clock (approx. 12.4MHz)	[How to operate] Select the menu by pressing the [SELECT] button, then record the internal clock.
RF recording current auto adjustment	72: - - - - (while menu is selected)	It varies the recording current value with 16 steps at every 4 sec. and records the internal oscillation clock (approx. 12.4 MHz). This process is repeated four times. (It takes a little more than four minutes.) Then, it plays back the recorded section automatically and detects the best recording current value out of the output levels for each head.	3.6.6 Recording current adjustment
Battery voltage detection auto adjustment	86: - - - - (while menu is selected)	S/S micro computer (S/S REG board IC14) measures the voltage at pin 68 and writes the difference between that value and the optimum value as the compensation value of the battery detection circuit on the EEPROM.	3.4.3 Remaining battery defection circuit adjustment

Table 1.4.8 (1) Adjustment modes-3/3

1.4.9 Warning history display

In the menu of this group, the following data regarding the last four warnings occurring can be displayed.

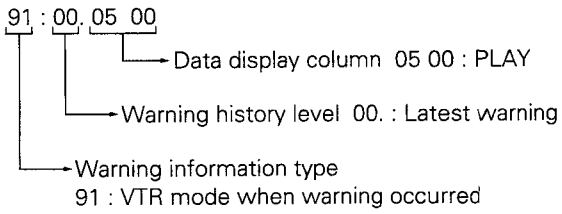
Display at the selected menu	Type of warning information
90:YY - - - -	Warning code (Refer to the section 1.6)
91:YY - - - -	VTR mode when the warning occurred. (Refer to the table 1.4.9 (2).)
92:YY - - - -	VTR mode before the warning occurred. (Refer to the table 1.4.9 (2).)
93:YY - - - -	The last operate button to be pressed when the warning occurred. (Refer to the table 1.4.9.(3).)
94:YY - - - -	Power ON accumulated time [unit: hour] when the warning occurred.
95:YY - - - -	The battery voltage [unit: V] when the warning occurred.

Table 1.4.9 (1) Types of warning information

[How to operate]

(1) Initiate the DIAG mode and select the group 8. (Refer to the section 1.4.2.)
(2) Select the type of warning information with the [ITEM] button.
(3) Select the warning history level with the [SELECT] button.
(4) Pressing the [DATA SET] button allows us to display data regarding the selected information.

[Display example]



Data	VTR mode	Data	VTR mode	Data	VTR mode
03 00	SEARCH FWD	0d 00	STOP	80 01	REC BACK SPACE
04 00	SEARCH REV	13 00	SKIP FWD	80 02	REC PAUSE
05 00	PLAY	14 00	SKIP REV	80 04	REC PLAY
07 00	NO CASSETTE (EJECT)	19 00	FF	80 10	REC
09 00	EJECT	1A 00	REW	81 01	ASSM BACK SPACE
0A 00	NO CASSETTE (INTAKE END)	16 00	SHORT FF	81 04	ASSM PLAY
0c 00	STAND-BY OFF	1c 00	SHORT REW	92 02	REC LOCK

Table 1.4.9 (2) VTR mode data

Data	Operate button	Data	Operate button	Data	Operate button
30 00	EJECT	33 00	REW	42 00	REC+PAUSE
31 00	STOP	40 00	PLAY	45 00	STANDBY
32 00	FF	41 00	REC+PLAY	46 00	REVIEW

Table 1.4.9 (3) Operate button data

1.4.10 Service item menu (Group 9)

In the menus of this group, the following menus are to carry out the data processing for the setup menu and the hour meter.

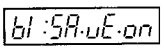
Menu selection displays	Functions
b1:SAuE.--	Save the setting data for the setup menu.
b2:LoAd.--	Set the setup menu to the setting saved at "b1:SAuE.--".
b3: In It.--	Set the setup menu to the factory set.
b4:Er AS.--	Delete the warning history data.
b7:Hr cL.--	(For factory use only)
b8:Cn cL.--	(For factory use only)

Table 1.4.10 (1) Service items menu

[How to operation]

(1) Initiate the DIAG mode and select group 9. (Refer to the section 1.4.2.)
(2) Select the [ITEM] button on the menu.
(3) Pressing the [DATA SET] button allows execution. While the data is being written in the EEPROM, the "on" message is displayed for approx. one sec.

[Display example]



1.5 HOW TO DETECT THE ALARM

The BR-D40 provides alarm display functions in order to inform users of the remaining condition of the tape and battery. This section explains how to detect them. Please refer to page 31 in the INSTRUCTIONS regarding the alarm display details.

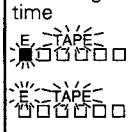
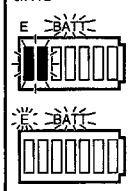
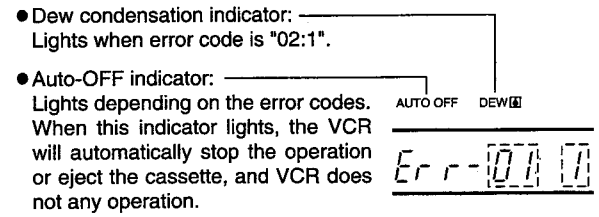
Items	Conditions	Detecting methods
Servo lock error "SERVO"	At the IN point of the continuous recording, this occurs if a drum rotation phase error happens for more than 450 micro s or if the capstan motor rotation speed varies more than 6%.	S/S micro computer (S/S REG board IC14) detects the drum rotation phase from the phase difference between the TSR signal and the ID signal, and the capstan motor speed from the frequency of the CAP x 2FG signal.
Head clog "RF"	This occurs when the RF signal is lacking for one second during the back space operation. (However, it also enters the alarm mode if the signal is lacking for 0.5 second just before ending the back space operation.)	It judges that the RF signal is lacking when the RF level detection circuit output (S/S REG board IC32 - pin17) becomes lower than 0.27 V.
Lithium battery fault "Li"	This occurs when a lithium battery is exhausted or is not installed.	When the input voltage (AUDIO&LCD board IC 418 - pin4) of the battery backup switching circuit becomes lower than 2.7 V, the signal at the PREEND terminal (pin2) is at a low level. This results in the Alarm mode being entered.
Tape remaining time 	This occurs when the remaining tape is less than 2 min. during recording or the recording pause function, or when the tape end is detected during recording.	S/S micro computer (S/S REG board IC14) detects the tape remaining time from the diameter of the supply reel and the tape end from the end sensor output.
Battery remaining time 	This occurs when the battery capacity is insufficient.	The S/S micro computer (S/S REG board IC14) detects the battery voltage from the voltage at pin68. When 12 V battery is used: Approx. 1.19 V When 13 V battery is used: Approx. 1.84 V When 14 V battery is used: Approx. 2.43 V (Alarm detection voltage setting: at 11.1 V)

Table 1.5 (1) How to detect the alarms

1.6 ERROR CODES

The BR-D40 diagnoses the causes of malfunctions and displays the error codes. The procedures of each error detection are explained below.



01 : 1 Disconnection or short circuit of LEDs for leader tape detection

- VTR operation: This ejects a cassette. If a cassette is not inserted, one cannot be accepted until the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Disconnection of the tape LED
- How to detect: When the IC14 - pin75 (normally approx. 1.1 V) becomes 250 ms or more and 3 V or more or 0.5 V or less.

02 : 1 Condensation

- VTR operation: It enters the AUTO OFF mode. When a cassette is not inserted, the drum motor starts rotation. When the condensation is cleared, the warning is released automatically and normal operation will start.
- [AUTO OFF] display in the LCD: Lit.
- Causes: Condensation or a malfunction of the DEW sensor
- How to detect: When the DEW sensor output (IC14 - pin73) becomes 3 V or more, it enters the warning mode. When it becomes 2 V or less, the warning is released.

32 : 1 The loading cannot be completed

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Malfunction of a mode sensor, a loading motor, an MDA circuit (IC21) or a loading mechanism.
  An inferior of a cassette tape.
- How to detect: The loading cannot be completed within eight seconds when it checks the mode sensor output (IC6 - pin19, 20, 21).

32 : 2 Tape slack during loading

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Malfunction of a loading mechanism (Stack of a guide roller)
- How to detect: When the 800 SP reel FG (IC14 - pin62) pulses (= 20 rotation) or more are output during the loading.

33 : 1 Unloading cannot be completed

- VTR operation: It enters the AUTO OFF mode.
- [AUTO OFF] display in the LCD: Lit.
- Causes: Malfunction of a mode sensor, a loading motor, an MDA circuit (IC21) or a loading mechanism.
  An inferior of a cassette tape.
- How to detect: The unloading cannot be completed within eight seconds when it checks the mode sensor output (IC6 - pin19, 20, 21).

56 : 3 SP reel over run due to a tape breakage

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Tape breakage due to abnormal tension, insertion of a damaged tape or scratches on the mechanism running parts.
  Abnormal tape winding in a cassette.
- How to detect: When the SP reel FG (IC14-pin 62) becomes a high frequency exceeding the specific limit for 3 seconds or more during the capstan REV mode.

56 : 4 TU reel over run due to tape breakage

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Refer to the error code "56 : 3".
- How to detect: When the TU reel FG (IC14-pin 63) becomes a high frequency exceeding the specific limit for 3 seconds or more during the capstan FWD mode.

56 : 5 The simultaneous detection of begin and end of the tape due to a tape breakage

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Tape breakage due to abnormal tension, insertion of a damaged tape or scratches on the mechanism running parts.
  A malfunction of the sensor may cause this error due to an exposure to sunlight or incandescence when the unit is used without an outer case.
- How to detect: When both the tape begin sensor (IC14 - pin77) and the tape end sensor (IC14 - pin76) outputs are of a low level during loading.

56 : 6 Tape breakage during unloading

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Tape breakage due to abnormal tension, insertion of a damaged tape or scratches on the mechanism running parts.
- How to detect: When the 1200 SP reel FG (IC14 - pin62) pulses (= 30 rotation) or more are output during unloading.

56 : 8 Tape breakage during loading

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Refer to the error code "56 : 6".
- How to detect: When only the 20 SP reel FG (IC14 - pin62) pulses (= 1/2 rotation) or less are output during loading.

57 : 1 Short REW cannot be completed

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Tape breakage due to abnormal tension, insertion of a damaged tape or scratches on the mechanism running parts.
  A malfunction of the sensor may cause this error due to an exposure to sunlight or incandescence when the unit is used without an outer case.
  Malfunction of the tape end sensor
- How to detect: The tape end sensor output (IC14 - pin76) stays at a low level even when the 100 SP reel FG (IC14 - pin62) pulses (= 2.5 rotations) or more are output in the Short REW mode.
  (Short REW mode: When it detects the tape end soon after a cassette is inserted, it rewinds the tape equivalent to 2.5 rotations of the SP reel with approx. 5x-speed. This operation is called a Short REW mode.)

57 : 2 Skip REV cannot be completed

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Refer to the error code "57 : 1".
- How to detect: The tape end sensor output (IC14 - pin76) stays at a low level when the SP reel is rotated for five seconds or more in the Skip REV mode.
  (Skip REV mode: When it detects the tape end at the loading end, it rewinds a leader tape at -1X speed. This operation is called a Skip REV mode.)

57 : 4 Tape end detection during REV running

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Refer to the error code "57 : 1".
- How to detect: The tape end sensor output (IC14 - pin76) becomes low level when a tape is wound in the REV direction.

58 : 1 Short FF cannot be completed

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Tape breakage due to abnormal tension, insertion of a damaged tape or scratches on the mechanism running parts.
  A malfunction of the sensor may cause this error due to an exposure to sunlight or incandescence when the unit is used without an outer case.
  Malfunction of tape begin sensor
- How to detect: The tape begin sensor output (IC14 - pin77) stays at a low level even when the TU reel is rotated for three seconds and the 50 TU reel FG pulses (= a little more than one rotation) are output in the Short FF mode.
  (Short FF mode: When it detects a tape beginning soon after a cassette is inserted, it first forwards a tape equivalent to the leader tape with approx. 5x-speed. This operation is called a Short FF mode.)

58 : 2 Skip FWD cannot be completed

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Refer to the error code "58 : 1".
- How to detect: The tape begin sensor output (IC14 - pin77) stays at a low level when the SP reel is rotated for five seconds or more in the Skip FWD mode.
  (Skip FWD mode: When it detects a tape begin at the loading end, it first forwards a reader tape at normal speed. This operation is called a Skip FWD mode.)

58 : 4 Tape begin detection during FWD running

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Refer to the error code "58 : 1".
- How to detect: The tape begin sensor output (IC14 - pin77) becomes low level when a tape is wound to the FWD direction.

70 : 1 Abnormal rotation of a drum motor

- VTR operation: It enter the AUTO OFF mode.
- [AUTO OFF] display in the LCD: Lit. (However, it does not light during loading).
- Causes: Malfunction of a drum motor inside a drum assembly or an MDA circuit.
  Disconnection of a drum assembly.
  Malfunction of a switching regulator circuit (S/S REG board IC502)
- How to detect: The drum FG (IC14 - pin65) cannot be detected for two seconds or more in the correct drum motor rotation mode.

71 : 1 Abnormal rotation of a capstan motor

- VTR operation: It enters the AUTO OFF mode.
- [AUTO OFF] display in the LCD: Lit.
- Causes: Malfunction of a capstan motor or an MDA circuit inside a capstan motor assembly.
  Disconnection of a capstan motor assembly.
  Malfunction of a switching regulator circuit (S/S REG board IC502)
- How to detect: Any capstan FG (IC14 - pin 64) pulse is not output for one second or more in the capstan drive mode (PLAY, REC, SEARCH FWD/REV).

72 : 1 Tape is slack at the tape supply side during the capstan drive mode

- VTR operation: It enters the AUTO OFF mode.
- [AUTO OFF] display in the LCD: Lit.
- Causes: Malfunction of a reel motor or a MDA circuit (S/S REG board IC31, Q26 - Q29).
  Disconnection of the reel motor assembly.
  Malfunction of the switching regulator circuit (S/S REG board IC502).
  Failure of a reel idler.
- How to detect: Any SP reel FG (IC14 - pin62) pulse is not output while the 6912 capstan FG (IC14 - pin64) pulses (= 4.8 rotation) are generated in the capstan drive mode (PLAY, REC. SEARCH FWD/REV).

72 : 4 SP reel overrun when a cassette is not inserted

- VTR operation: It enters the AUTO OFF mode.
- [AUTO OFF] display in the LCD: Lights.
- Causes: Wrong detection of reel FG because of the interference of pulses.
  Malfunction of reel MDA circuit (S/S REG board IC31, Q26 – Q29).
- How to detect: When the SP reel FG (IC14-pin 62) becomes a high frequency exceeding the specific limit for 3 seconds or more without inserting a cassette.

72 : 5 SP reel does not rotate during unloading

- VTR operation: It enters the AUTO OFF mode.
- [AUTO OFF] display in the LCD: Lights.
- Causes: Refer to the error code "72 : 1".
- How to detect: Only 20 SP reel FG (IC14 - pin62) pulses (= 1/2 rotation) are output during unloading.

72 : 7 SP reel does not rotate during Short REW

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Refer to the error code "72 : 1".
- How to detect: Only 100 SP reel FG (IC14 - pin62) pulses (= 2.5 rotation) or less are output within five seconds during the Short REW mode.
  (Short REW mode: When it detects the tape end soon after a cassette is inserted, it rewinds the tape equivalent to 2.5 rotations of an SP reel with approx. 5x-speed. This operation is called a Short REW mode.)

73 : 1 Tape slack at the take-up side during the capstan drive mode

- VTR operation: It enters the AUTO OFF mode.
- [AUTO OFF] display in the LCD: Lights.
- Causes: Refer to the error code "72 : 1".
- How to detect: Any TU reel FG (IC14 - pin63) pulse is not output while the 6912 capstan FG (IC14 - pin 64) pulses (= 4.8 rotation) are generated in the capstan drive mode (PLAY, REC, SEARCH FWD/REV).

73 : 4 TU reel overrun without a cassette insertion

- VTR operation: It enters the AUTO OFF mode.
- [AUTO OFF] display in the LCD: Lights.
- Causes: Refer to the error code "72 : 4".
- How to detect: TU reel overruns without inserting a cassette, and the 40 TU reel FG (IC14 - pin63) pulses (= one rotation) or more are output in a second.

73 : 7 SP reel does not rotate during Short FF

- VTR operation: It ejects a cassette. When a cassette is inserted again and the loading is completed, the warning is released.
- [AUTO OFF] display in the LCD: Not lit.
- Causes: Refer to the error code "72 : 1".
- How to detect: The tape begin sensor output (IC14 - pin77) stays at a low level even if the TU reel is rotated for three seconds and the 50 TU reel FG pulses (= a little more than one rotation) or less are output in the Short FF mode.
  (Short FF mode: When it detects a tape beginning soon after a cassette is inserted, it first forwards the tape equivalent to the leader tape with approx. 5x-speed. This operation is called a Short FF mode.)

1.7 EEPROM

IC34 on the S/S REG board is an EEPROM which can erase and write electrically and stores the following data regarding DIAG mode.

Stored data	In EEPROM replacement
[Group 1] Data of hour meter	All data will be reset.
[Group 3] Setting data of the battery alarm/end detection voltage	Returns to the factory setting
[Group 4] Setting data of setup menu (Including menus for users)	Returns to the factory setting
[Group 7] Adjusted data set at the Adjustment mode	Returns to the factory setting
[Group 8] Data regarding to the Warning history	All data will be deleted.
[Group 9] Setting data of the setup menu saved at the DIAG menu "b1"	All data will be deleted.
Model name, serial No. (only to be used at the factory)	All data will be deleted.

Table 1.7 (1) EEPROM stored data

When the EEPROM is replaced, the following adjustment data for the group 7 return to the factory setting applies. Make sure to readjust them again.

(1) DIAG menu No. 5d: Capstan FG duty/gain auto adjustment
(2) DIAG menu No. 5F: Reverse torque adjustment
(3) DIAG menu No. 61: Unloading torque adjustment
(4) DIAG menu No. 62: PLAY torque adjustment
(5) DIAG menu No. 64: Switching point auto adjustment
(6) DIAG menu No. 68: Tracking preset auto adjustment
(7) DIAG menu No. 72: RF record current auto adjustment
(8) DIAG menu No. 86: Battery voltage detection auto adjustment

1.8 LITHIUM BATTERY

BR-D40 employs a lithium battery (nominal voltage: 3 V) for the back up of the LCD micro computer. The data to be backed up is explained below.

(1) Time code generator data (With free run mode, it keeps on counting during the execution of back up)
(2) Date/Time data for SUB TC
(3) Continuous recording IN point data
(4) CTL counter data

IC418 on the S/S REG board performs switching to a lithium battery for backup.
This IC switches the power supply of the LCD micro computer to a lithium battery when the main voltage becomes 4.7 V or less. At this time, IC418 switches the "CS" output to low level, the LCD micro computer switches the clock oscillator to X402 and it will be operated with the sleep mode. Also, the IC418 detects the voltage of the lithium battery. When the voltage become 2.7 V or less, it switches the "PREEND" output to low level, then displays the alarm "Li" on the display.

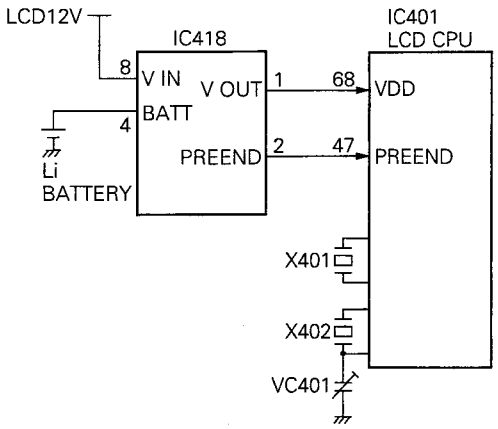
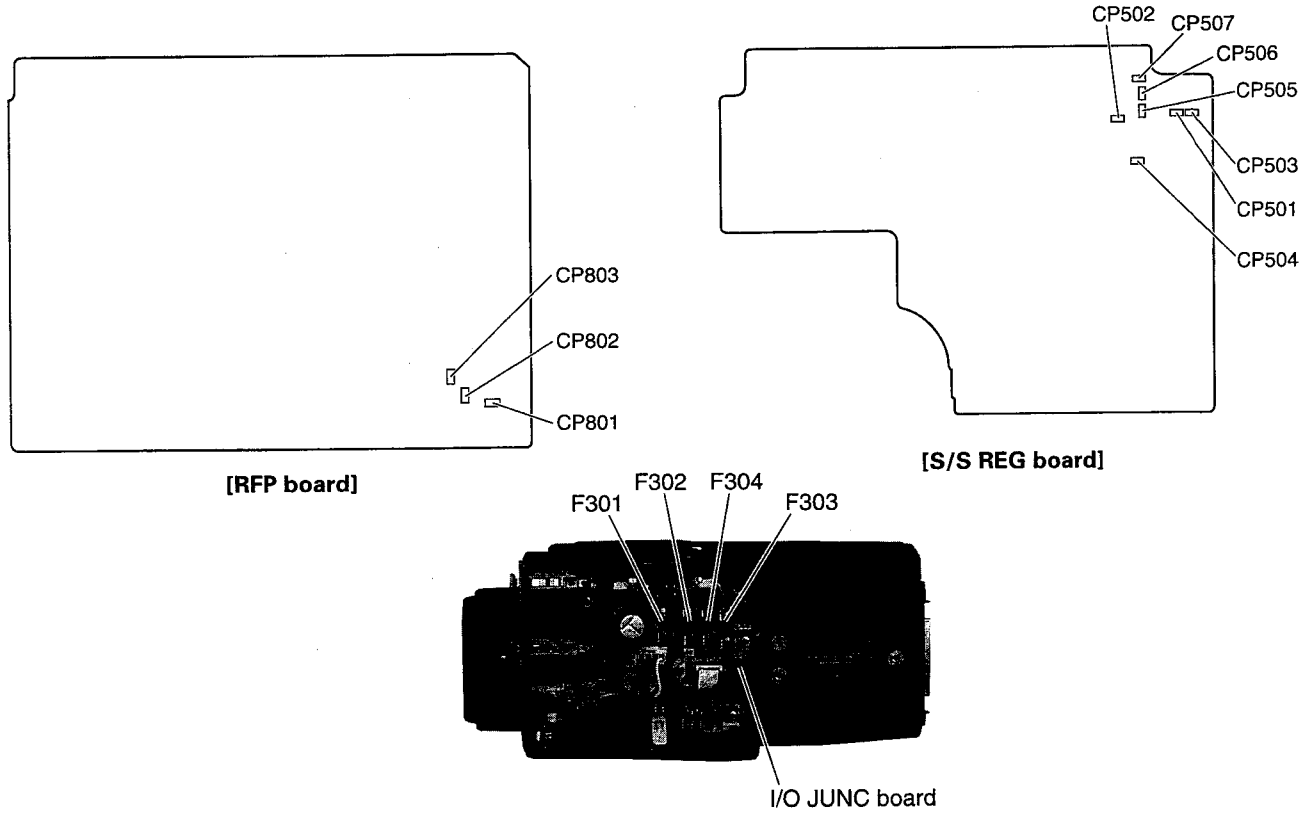


Fig. 1-8 Back up circuit

1.9 FUSES AND CIRCUIT PROTECTORS

CAUTION:

FOR PROTECTION AND SAFETY IN OPERATION, FUSES AND CIRCUIT PROTECTORS SHOULD BE REPLACED ONLY BY THE ONES WITH RECOMMENDED PARTS NOs.



Fib. 1-9 Fuse, circuit protector layout diagram

Board names	Symbol No.	Symptoms in disconnection	Parts Nos.
I/O JUNC	F301	Power cannot be turned on. (No power is supplied to the set.)	Refer to page 5-2
	F302	The power cannot be turned ON. (However, 12 V is output from DC OUT terminal and the camera connection terminal.)	Refer to page 5-2
	F303	The power is not supplied from a camera connection terminal to a camera.	Refer to page 5-2
	F304	12 V is not output from DC OUT terminal.	Refer to page 5-2
S/S REG	CP501	The loading motor does not rotate. The flying erase circuit does not operate.	Refer to page 6-28
	CP502	The power cannot be turned ON. (The SW regulator does not operate.)	Refer to page 6-28
	CP503	The power cannot be turned ON. (LCD micro computer does not operate.)	Refer to page 6-28
	CP504	48 V is not output from the AUDIO IN terminal.	Refer to page 6-28
	CP505	Malfunction of the battery voltage detection.	Refer to page 6-28
	CP506	No audio is output from the EARPHONE terminal.	Refer to page 6-28
	CP507	The battery alarm malfunctions when the voltage of the battery type is set at other than 12 V and 12 V is supplied from the DC IN terminal.	Refer to page 6-28
RFP	CP801	No picture and digital audio is not output.	Refer to page 6-22
	CP802	No picture and digital audio is not output.	Refer to page 6-22
	CP803	No picture and digital audio is not output.	Refer to page 6-22

Table 1.9 Symptoms in the disconnection of fuses and circuit protectors

1.10 HOW TO TAKE A CASSETTE OUT IN AN EMERGENCY

In case a cassette cannot be ejected because of malfunctions of the motor and mechanism systems, or any tape slack occurs, follow the procedure explained below to take the cassette out.

(1) Remove the left side cover. (Refer to the section 1.1.2)
(2) While observing the condition of the tape and mechanism, take the cassette out using one of the following procedures.

- How to wind a slack tape
  If a slack tape occurs when the unit is in the AUTO OFF mode, the tape should be wound with the emergency role function.

(1) Press the "STOP" and the "OPERATE" buttons simultaneously for three sec. or more in the AUTO OFF mode or immediately after the power is turned on.
(2) Confirm that the LCD counter displays "63:P 00 00", then press the "REW" button while pressing the "OPERATE" button. (The supply reel winds the tape for approx. 80 ms.)
(3) Repeat the procedure (2) to wind up the tape slack, then press the "MENU" button to cancel the emergency role function.
(4) Press the "EJECT" button to take the cassette out.

- How to take a cassette out manually
  If the emergency role function does not operate because of a malfunction of the reel motor, or the unloading does not operate because of a malfunction of the loading motor, follow the procedure explained below to take a cassette out.

(1) Take out the PRE/REC board and the S/S REG board. (Refer to the section 1.2.6)
(2) Remove the screw (1) and the spring hook (A) in order to loosen the timing belt.
(3) Take the timing belt out at the mode motor side.

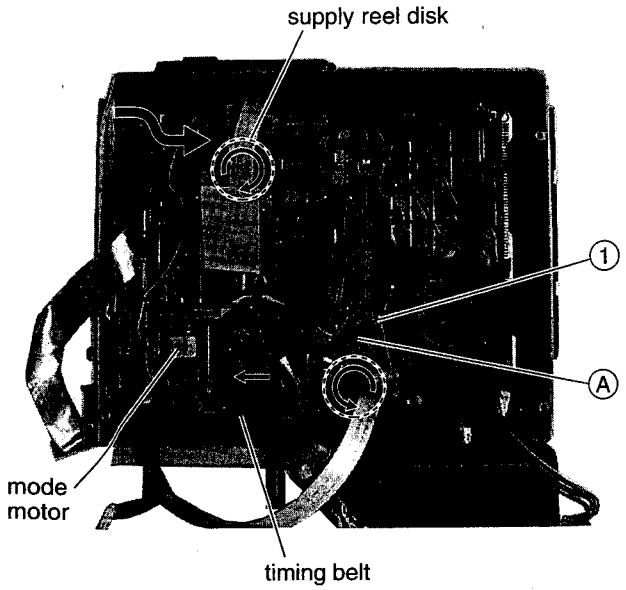


Fig. 1.10 How to take a cassette out manually

(4) Turning the timing belt in the direction shown in the Fig. 1.10 allows performing of the unloading and eject functions. Any tape slack occurring with this procedure should be wound by inserting a finger from the direction shown with an arrow in the diagram in order to turn the supply reel disk.

* Refer to section 2.7.12 for instructions on installing the timing belt.

1.11 OPERATIONS OF SWITCHES AND SENSORS

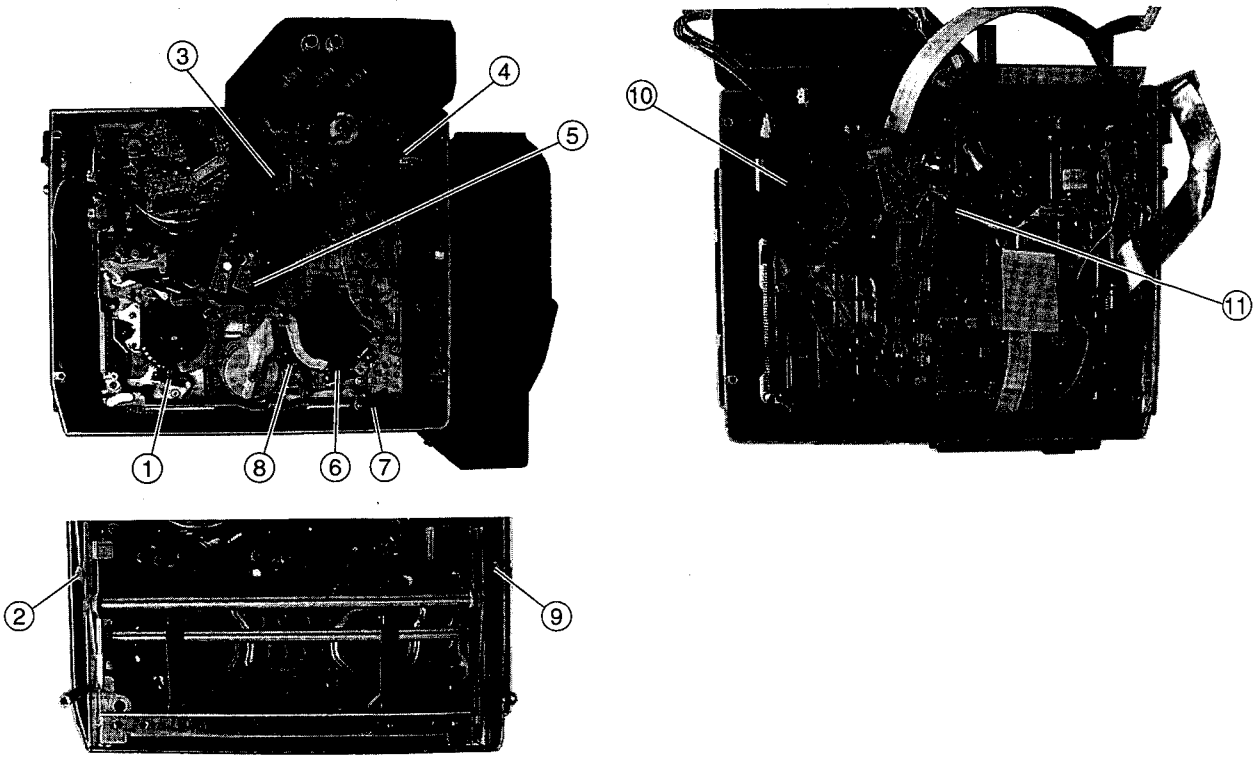


Fig. 1-11-1 Switches and sensors layout

① **Supply reel FG**
40 pulses are output during a cycle of the reel disk.

② **End sensor**
This detects the tape end.

③ **Dew (condensation) sensor**
This detects condensation.

④ **After loading sensor**
This detects the mechanism positions together with the mode sensor ⑪ .

⑤ **Tape LED**
This illuminates in order to detect the tape end and beginning.

⑥ **Takeup reel FG**
This detects the rotation of a takeup reel.
40 pulses are output during a cycle of the reel disk.

⑦ **Cassette switch**
Three switches are built in.
Outside switch : It detects pits for mis-erase prevention.
Center switch : It detects a digital S cassette.
Inside switch : Not used.

⑧ **Housing lock switch**
Detects the opening and closing of a cassette housing.

⑨ **Begin sensor**
Detects a tape beginning.

⑩ **Capstan MR**
Generates sine waves with a frequency proportional to the rotation speed with a 2-phase output rotation sensor using MR elements.

⑪ **Mode sensor**
Detects mechanism positions and outputs three different signals as explained in Fig. 1.11.2.

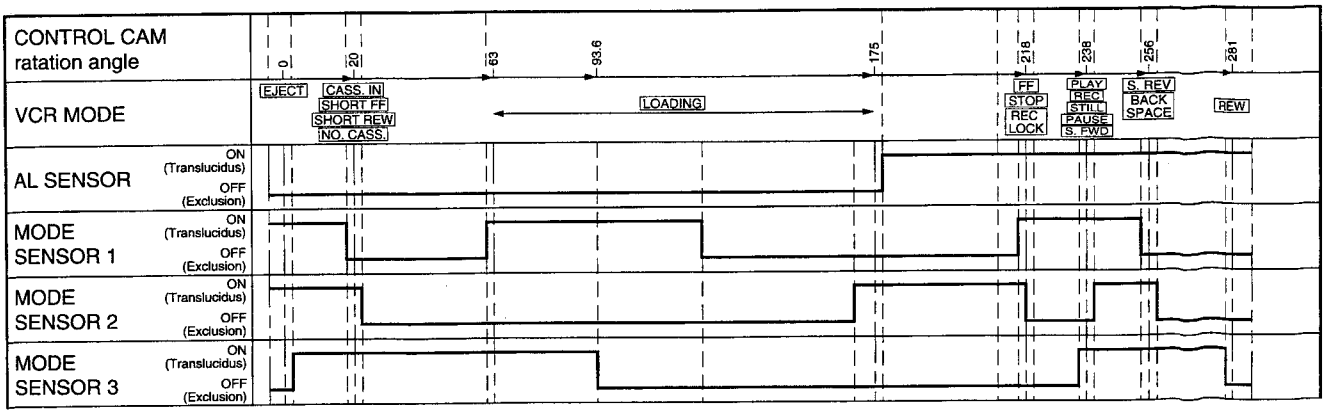
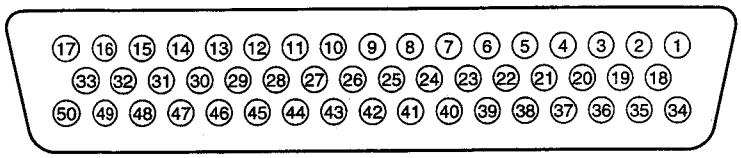


Fig. 1-11-2 Functions of Mode/AL sensors

1.12 SPECIFICATION FOR THE 50PIN CONNECTOR



PIN No.	Name	Specs.
1	5 V IN	+5 VDC IN
2	— — —	NC
3	— — —	NC
4	— — —	NC
5	POWER GND	GND
6	POWER GND	GND
7	— — —	NC
8	— — —	NC
9	— — —	NC
10	— — —	NC
11	— — —	NC
12	— — —	NC
13	VTR ID OUT	GND
14	— — —	NC
15	MIC1 GND	GND
16	MIC1 COLD	−20 dBs / 10 kΩ BALANCED
17	MIC1 HOT	
18	RET. VIDEO OUT	1.0 Vp-p / 100 Ω
19	— — —	NC
20	— — —	NC
21	GND	GND
22	MIC2 GND	GND
23	MIC2 COLD	−20 dBs/10 kΩ BALANCED
24	MIC2 HOT	
25	SAVE CTL IN	ST-BY: +5 V SAVE: OPEN Zi ≥ 10 kΩ
26	RET. SW IN	RETURN: LOW NORMAL: Hi-Z
27	VTR START/STOP	START: +5 V STOP: 0 V Zi ≥ 10 kΩ
28	— — —	NC
29	R-Y IN	0.7 Vp-p (U ver.) 0.525 Vp-p (E ver.) Zi: 1 kΩ
30	— — —	NC
31	— — —	NC
32	RET. AUDIO OUT	−6 dBs/1kΩ UNBLANCED
33	GND	GND
34	— — —	NC
35	— — —	NC

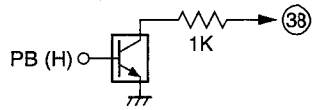
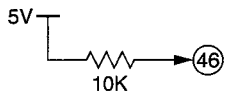
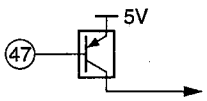
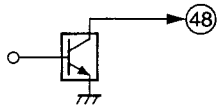
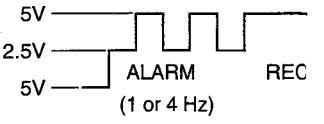
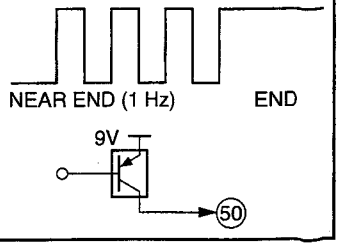
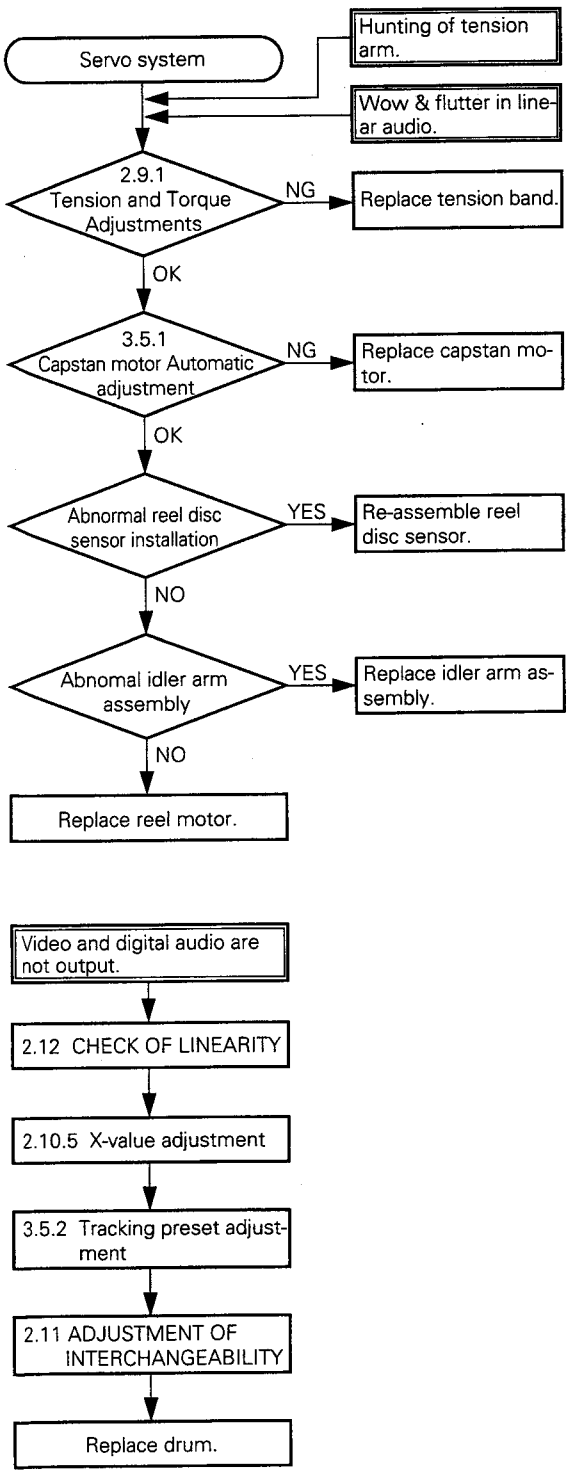
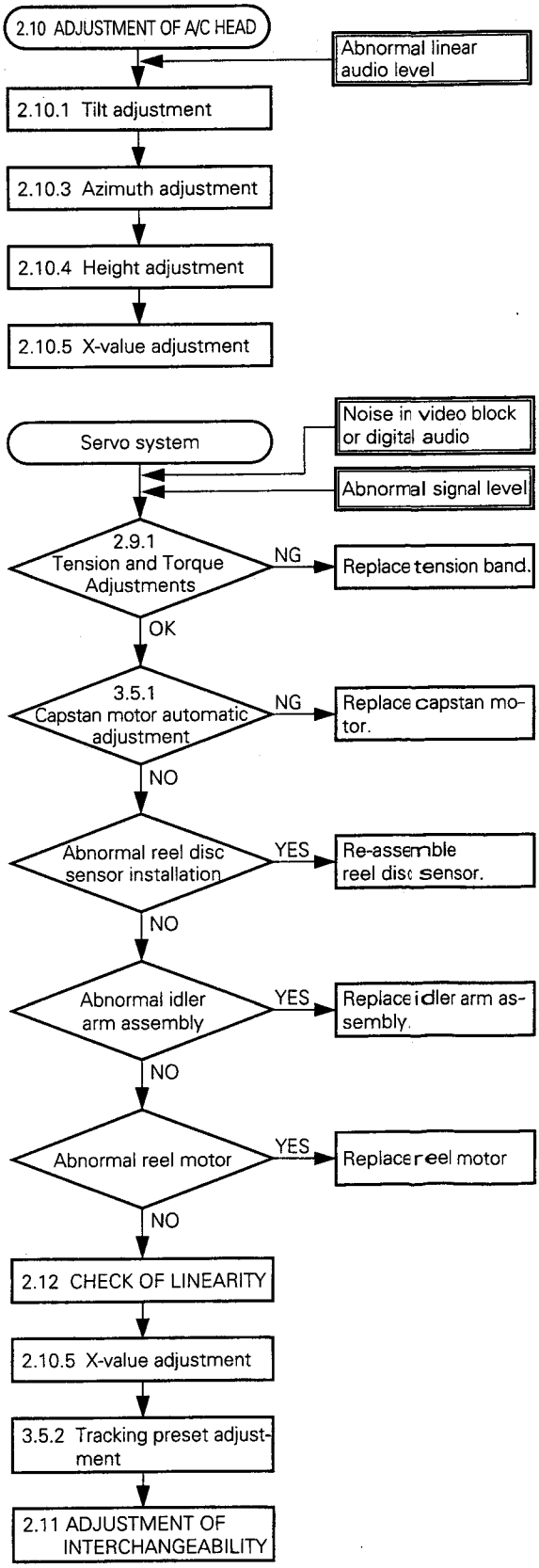
PIN No.	Name	Specs.
36	B-Y IN	0.7 Vp-p (U ver.) 0.525 Vp-p (E ver.) Zi: 1 kΩ
37	— — —	NC
38	PB (L) OUT	
39	POWER SUPPLY	MAX 1.7 A
40	POWER SUPPLY	MAX 1.7 A
41	Y IN	1 Vp-p [SYNC 0.286 Vp-p] (U ver.) 1 Vp-p [SYNC 0.3 Vp-p] (E ver.) Zi: 1 kΩ
42	GND	GND
43	— — —	NC
44	— — —	NC
45	CAMERA ID IN	KY-D200: LOW
46	S-VHS (L) OUT	
47	SERIAL DATA IN	
48	SERIAL DATA OUT	
49	REC TALLY OUT	
50	WARNING SIG. OUT (BATTERY)	

Table 1.12 Specification for the 50 pin connector

SECTION 2
MECHANISM ADJUSTMENTS

2.1 MECHANISM ADJUSTMENT FLOWCHART



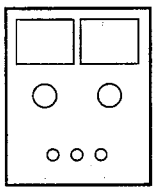
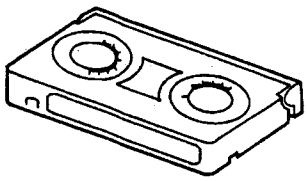
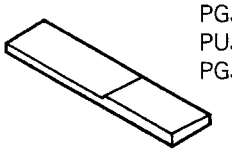
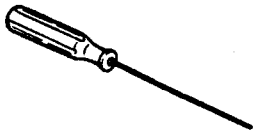


2.2 REQUIRED MEASURING INSTRUMENTS FOR ADJUSTMENTS, STANDARD SETUP

2.2.1 Required measuring instruments for adjustments

Instrument	Condition
Oscilloscope	Capable of measuring 100 MHz or higher bands and calibrated.
Digital voltmeter	Input impedance 10 MΩ or more, and calibrated.
Audio tester	Must be calibrated.

2.2.2 Instruments

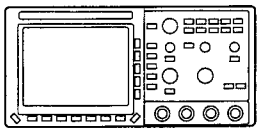
1	12 V DC power supply
	 DC regulated power supply (output current 4 A or more)
2	Alignment tape
	See the subsection "2.3.2 Specifications of alignment tapes".
3	Digital S tape
	For use in recording the signal and playback. (DS-104)
4	Cassette torque meters
	 PUJ42881, PUJ42881B (VHS tape should be wound around the reels.)
5	Parallel check plate
	 PGJ04035 (0.05 mm) or PUJ50204 (0.1 mm) or PGJ04039 (0.15 mm) PGJ04034 (2 mm)
6	Hexdriver
	 PGJ04034 (2 mm)
7	Linearity check tool
	A/D board: KLJ0089 RS-232C cable: KLJ0123-2

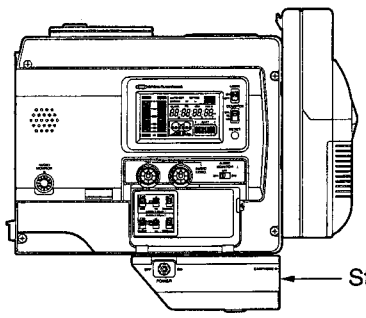
2.2.3 General tools for mechanism adjustments

- Nut driver (5.5 mm)
- Tapered nut driver (PUJ50637)
- Hex. wrenches (0.9 mm, 1.27 mm, 2 mm)
- Phillips screwdrivers (4 mm, 2.6 mm, 2 mm)
- Flat-blade screwdriver
- Precision screwdriver
- Torque driver
- VHS tape (T120)
- DIGITAL S tape (DS104)

2.2.4 Standard setup Oscilloscope

Oscilloscope





2.2.5 Procedure to activate DIAG mode

1) While holding the ADVANCE button depressed, press and hold the MENU button for more than 3 seconds.
2) Press the GROUP button to select group 7 (from "58: " to "86: ").
3) Press the ITEM button to select the specified menu.
4) Press the SELECT button to execute the item.
   See sub section "1.3.2" for details.

2.3 BEFORE PROCEEDING TO ADJUSTMENT

2.3.1 Precautions

1) Before using a soldering iron, be sure to unplug the power cord from the power supply outlet.
2) When removing a connector, do not pull the wire section but grasp the plug section.
3) In cases of trouble, do not turn adjustment points and potentiometers before the defective point is identified.
4) When inserting a cassette tape, do not place the unit on its side or rear or upside down. Otherwise the cassette housing may be damaged.
5) Remove the top and side covers before making any mechanism adjustments.
6) Each roller should be replaced independently of the replacement operations for other rollers, and the transport system should be checked every time after a roller has been replaced.
7) Before electrical adjustments, be sure to turn on the unit and leave it on for at least 10 minutes or more.
8) The oscilloscope probe should be a 10:1 probe unless otherwise specified.

2.3.2 Specifications of alignment tape

MHP: for U-ver.
(Stairstep segment of MH1 tape is substitutable)

Video Signal	Audio Signal	Time (min.)	Applications
VHP (SP mode) stairstep	7 kHz (guard band recording)	20	A/C head azimuth adjustment.

MHPE: for E-ver.
(Stairstep segment of MH2 tape is substitutable)

Video Signal	Audio Signal	Time (min.)	Applications
VHS (SP mode) Stairstep	6 kHz	20	For adjustment of A/C head azimuth.

MBA-3; for U-ver.
(Tape that MHA-3 is changed just in the name.)

Video Signal	Audio Signal	Time (min.)	Applications
–	1 kHz (guard band recording)	–	A/C head height adjustment

MBAE-3; for E-ver.
(Tape that MHAE-3 is changed just in the name.)

Video Signal	Audio Signal	Time (min.)	Applications
–	1 kHz (guard band recording)	–	For adjustment of A/C head azimuth.

MSHP

Video Signal	Audio Signal	Time (min.)	Applications
Sine wave	–	50	Interchange ability adjustment

MSHP-X

Video Signal	Audio Signal	Time (min.)	Applications
Color bar (1 track per frame does not contain video.)	–	50	X-value adjustment, tracking preset adjustment.

2.4 MAINTENANCE AND INSPECTION OF MAIN PARTS

Periodical inspection and maintenance are the prerequisite for ensuring the original performance and reliability of the set. Table 2-4-1 (check and maintenance table for major parts) is compiled as a standard of main parts replacement on the assumption that the set is used in ordinary conditions. Therefore, replacing periods indicated in the table greatly differ depending on actual use and environmental conditions. Moreover, if the set undergoes inspection and maintenance irregularly or is left without inspection and maintenance, it not only shortens the replacement period considerably but also affects other parts and the whole function.

Rubber parts require careful attention because they are apt to deform or deteriorate if the set is hardly used or left in bad environment.

The life time of the drum depends on use and environmental conditions.

2.4.1 Main Parts Layout

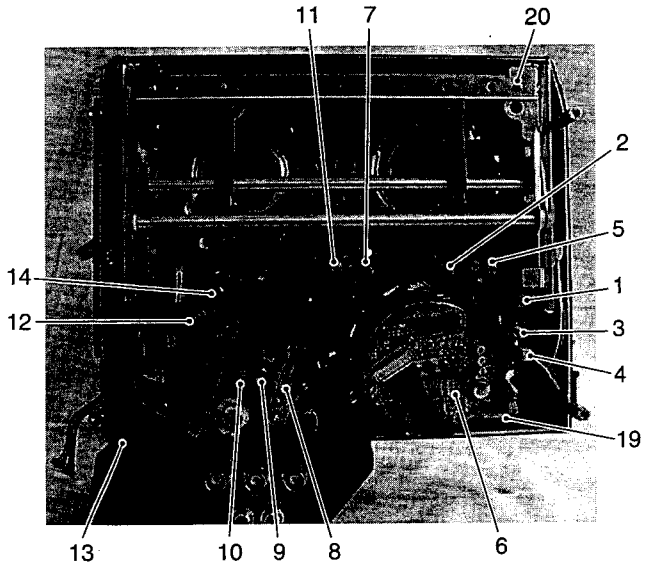


Fig. 2-4-1 Top Side of Deck

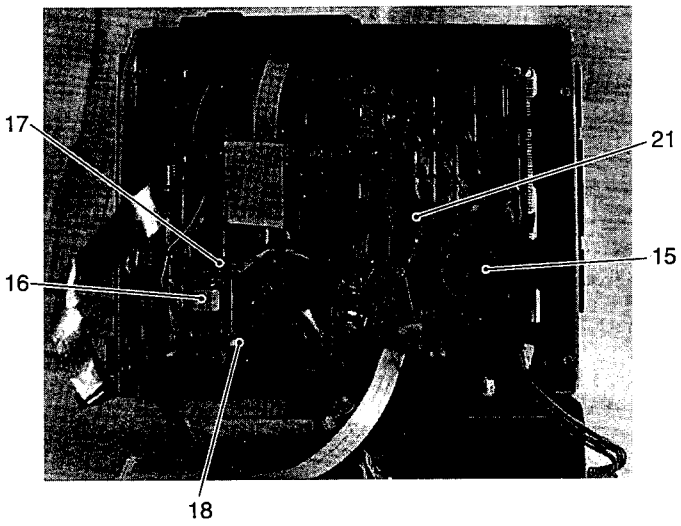


Fig. 2-4-2 Back Side of Deck

2.4.2 Check and maintenance table

Table 2-4-1 Check and maintenance table for major parts

★: Cleaning ○: Replacing if required Cleaning if it is not replaced ●: Replacing

Category	No.	Part Name	Reference section of this manual	Standard service period (Operating Hours) (See Note) A	B	C	Symbol No. of part and page which is appears in	Remark
Tape transport system	1	1st guide roller	2.7.2				No. 91, p. 5-8	
	2	Supply tension arm assembly	2.7.4	★		●	No. 119, p. 5-8	Including supply tension band
	3	Full erase head guide roller	2.7.3				No. 108, p. 5-8	
	4	Full erase head assembly	2.7.17	○		●	No. 111, P. 5-8	Including tape scraper
	5	Supply pole base assembly	2.7.5	★		●	No. 74, p. 5-8	
	6	Drum assembly	2.5.2	●			No. 36, p. 5-5	
	7	Take-up guide roller	2.7.11	★		●	No. 68A, p. 5-8	
	8	A/C head assembly	2.7.7	○		●	No. 102, p. 5-8	
	9	A/D head guide roller	2.7.8	★		●	No. 92, p. 5-8	
	10	Middle guide roller	2.7.9	★		●	No. 110, p. 5-8	
	11	Draw pole base assembly	2.7.11	★		●	No. 70, p. 5-8	
	12	Capstan shaft	2.4.5	★			–	
	13	Pinch roller assembly	2.7.6	★	●		No. 99, p. 5-8	
	14	Take-up tension arm assembly	2.7.10	★		●	No. 84, p. 5-8	Including Take-up tension band
Drive system	15	Capstan motor assembly	2.7.13				No. 27, p. 5-7	
	16	Reel motor assembly	2.7.14	○	○	●	No. 43, p. 5-7	Including belt
	17	Mode motor assembly	2.7.15				No. 21, p. 5-7	
	18	Belt	2.6.3	★	●	●	No. 21E, p. 5-7	
	19	Timing belt	2.7.12				No. 25, p. 5-7	
	20	Supply rubber tire	2.7.18	★		●	No. 58A, p. 5-6	
	21	Take-up rubber tire	2.7.18				No. 59A, p. 5-6	
	22	Idler arm assembly	2.6.4				No. 64, p. 5-8	
	23	Supply tension band	2.6.5	★	●		No. 82, p. 5-8	
	24	Take-up tension band	2.6.6				No. 84D, p. 5-8	
	25	Sub-brake	2.6.7				No. 55, p. 5-8	
	26	Supply reel disk assembly	2.4.6	☆	☆	☆	–	Oiling to the shaft.
	27	Take-up reel disk assembly	2.4.6				–	Oiling to the shaft.
Others	28	Head cleaner	2.5.3	●	●	●	No. 116, p. 5-8	Excluded from drum assembly
	29	Cassette housing assembly	2.6.2				[M] [5], p. 5-9	
	30	Control cam	2.7.16	★	●		No. 9, p. 5-7	
	31	Roller	2.7.16				No. 8, p. 5-7	
	32	Pinch cam arm assembly	2.7.16				No. 14, p. 5-7	

Note: For fixing an aim to service, follow the indication of the DRUM HOUR METER appearing on the MENU switch setting screen in general.
A: every 500 hours, B: every 1000 hours, C: every 2000 hours

2.4.3 Cleaning

It is desirable to carry out periodical cleaning of the tape transport system, however, it is almost impossible to do it during actual use of the set. Therefore, clean the tape transport system, without fail whenever the set is brought in for service. For cleaning, use fine woven cotton cloth moistened with ethyl alcohol.

1. If the head is dirty or dusty, playback picture may consist of a great deal of minute square blocks because of malfunction of error correction, or the set fails in playing back picture for the worst.
   For cleaning the video head, turn the middle drum in the normal direction (the same as VHS model) while pressing quality paper lightly onto the surface of the middle drum.

Note:

Since the video head is weak against vertical force (applied in up-down direction), it may easily be damaged if cleaning paper is moved.

2. Dirty and dusty tape guide not only increases dirt on the video head but also damages tape.
   If dust and foreign particles have collected on and around guide rollers, it may possibly cause abnormal roller rotation and may result in deterioration in picture quality as mentioned above.

2.4.4 Oiling and greasing

If oil or grease looks worn or deteriorated, wipe it off and then apply new oil or greases to the specified place.

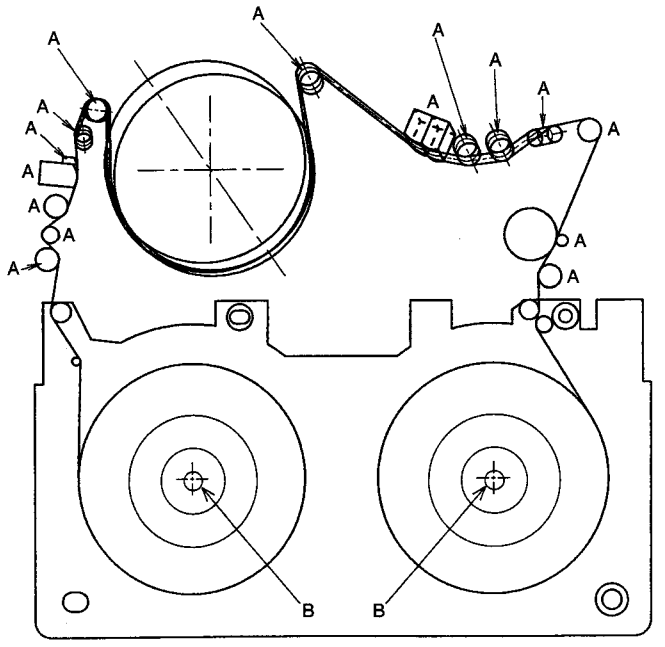
1. Table 2-4-2 shows oil and grease used in this set.

Table 2-4-2 Oil an grease used in this set

Classificcation	Name	Part No.
Oil*	Cosmo Hydro HV56	COSMO-HV56
Grease	Moriton Grease (Black)	MOS2-C

*General spindle oil (low viscosity) is substitutable.

2. Control cam needs greasing every 2000 hours of operation.
3. Other parts need greasing every 2000 hours of operation or at the time of replacement.
4. For parts that need oiling or greasing, refer to the exploded view of SECTION 5 EXPLODED VIEWS AND PARTS LIST.



A : Cleaning
B : Oiling

Fig. 2-4-3

2.5 PERIODICAL MAINTENANCE AT EVERY 500 HOURS

2.5.1 500-hour periodical maintenance flowchart

Fig. 2-5-1 shows the procedure of the periodical maintenance operation to be performed after every 500 hours of operation.

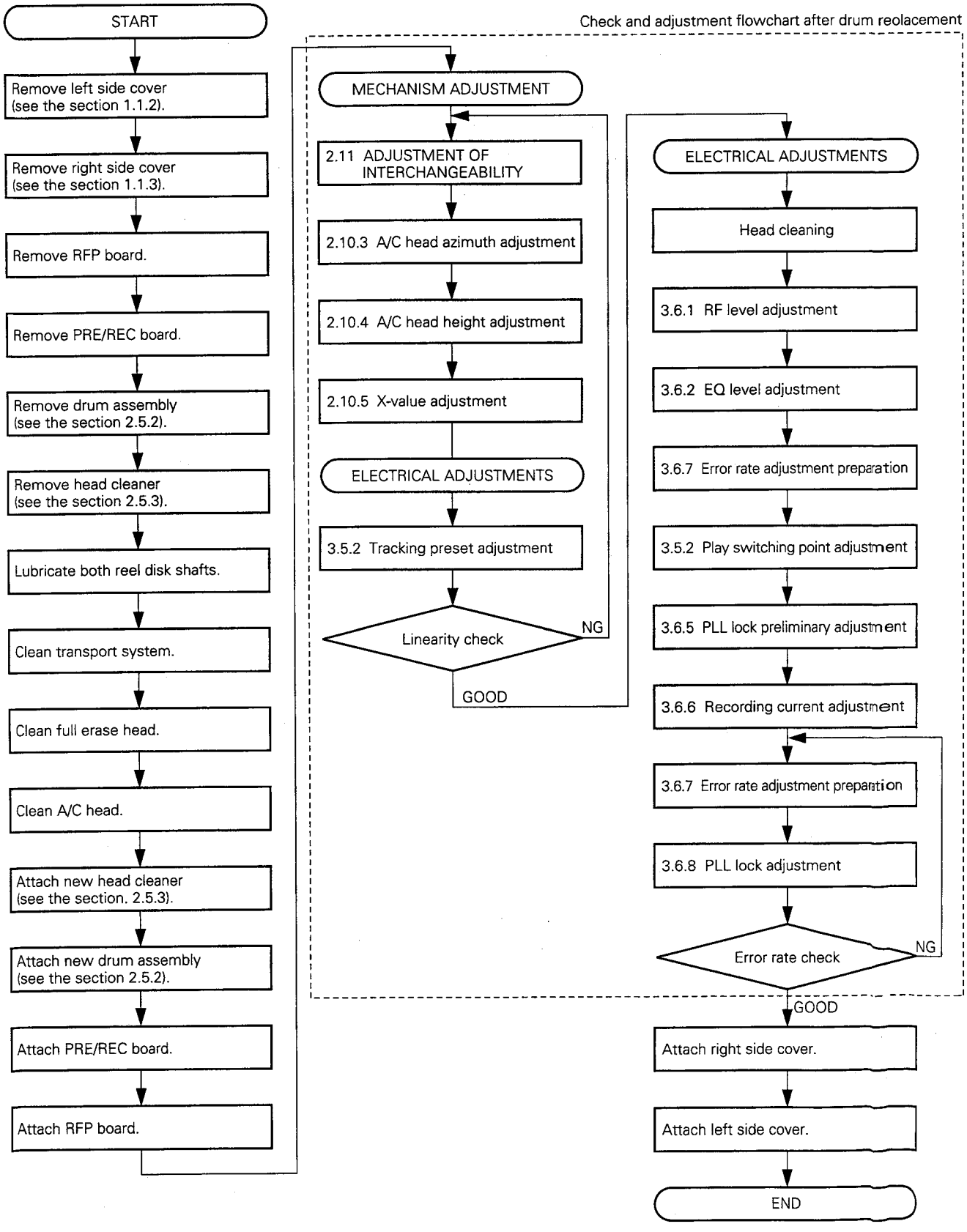
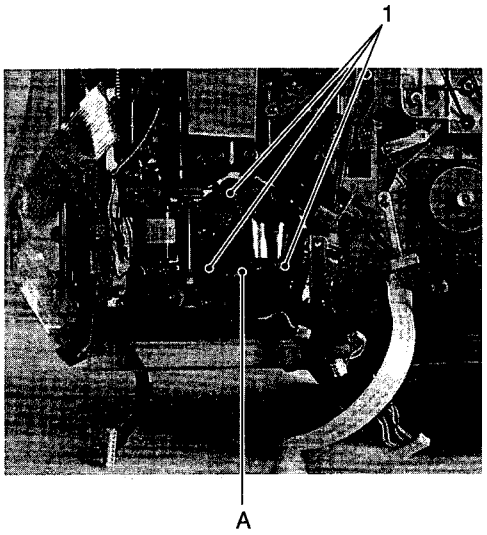
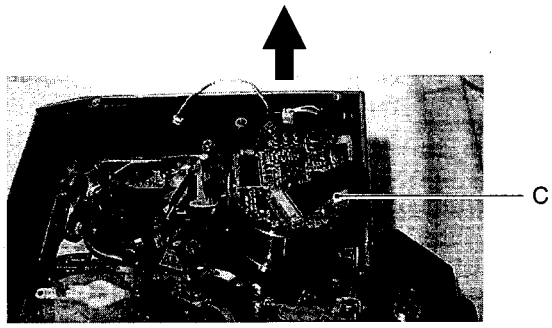
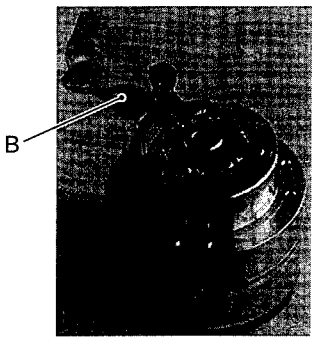


Fig. 2-5-1 500-Hour Periodical Maintenance Flowchart

No.	Item	Reference Diagrams	Procedure

2.5.2 Drum assembly replacement

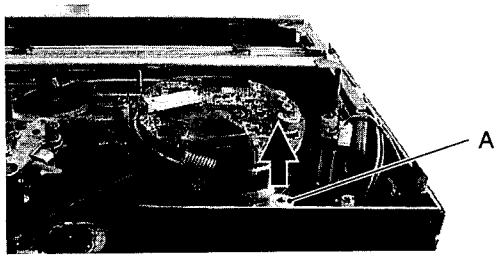
[CAUTION] • When replacing the drum assembly, take enough care to avoid leaving fingerprints on the drum assembly, by wearing gloves, etc.
• After replacing the drum assembly, be sure to perform the adjustments as shown in the flowchart (see Fig. 2-5-1).

1	Removal	 **Fig. 2-5-2**  **Fig. 2-5-3**	1. Remove the connector C. (see Fig. 2-5-3) 2. Remove the three screws 1 which are retaining the drum from the rear side. (see Fig. 2-5-2). When removing the screws, support the drum assembly A from its front side with your hand so that it does not fall down. 3. Remove the drum assembly by gently lifting it upward (see Fig. 2-5-3). 4. Remove the flat cable B (see Fig. 2-5-4).  **Fig. 2-5-4**
2	Attaching		1. Attach the drum assembly by reversing the removal procedure. The tighten torque of screw 1 should be 0.49 N-m (5 kgf-cm). 2. Perform checks and adjustments as indicated in Fig. 2-5-1, " Check and Adjustments Flowchart After Drum Replacement".

No.	Item	Reference Diagrams	Procedure

2.5.3 Head cleaner replacement

[CAUTION] • When replacing the head cleaner, take enough care to avoid leaving fingerprints on it.

1	Removal	 **Fig. 2-5-5**	1. Pull out the cleaner A (see Fig. 2-5-6).
2	Attaching		1. Insert a new cleaner.

2.6 PERIODICAL MAINTENANCE AT EVERY 1000 HOURS

2.6.1 1000-hour periodical maintenance flowchart

Fig. 2-6-1 shows the procedure of the periodical maintenance operation to be performed after every 1000 hours of operation.

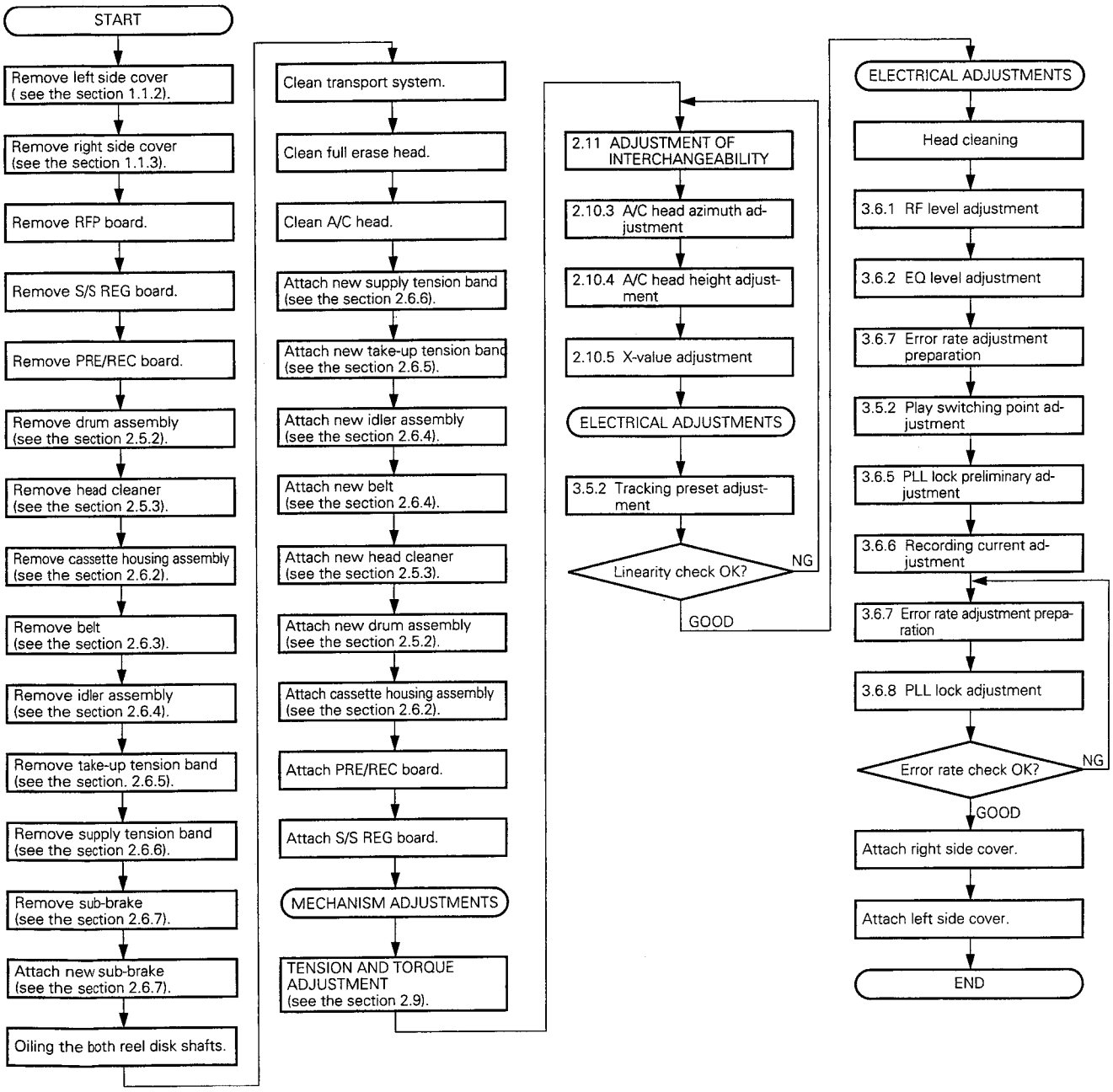
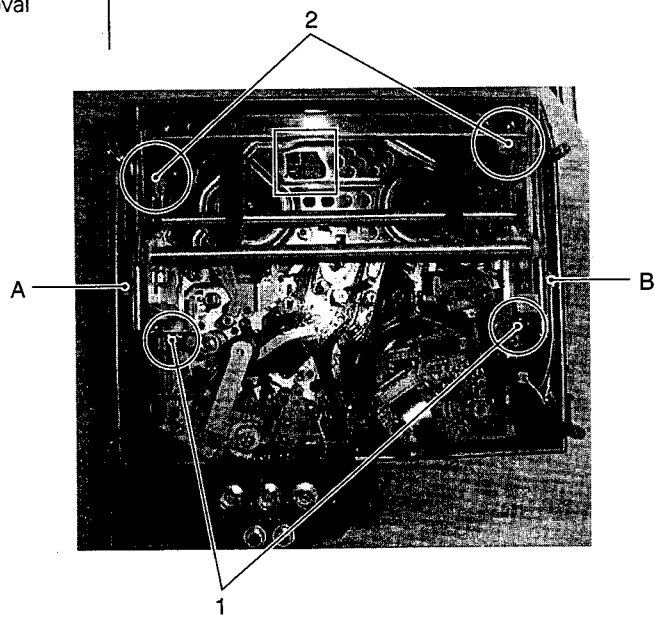
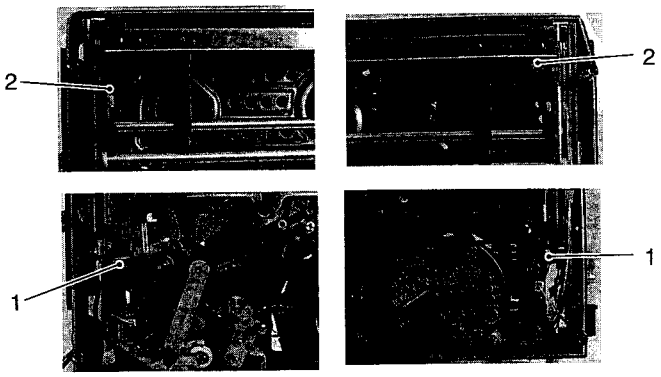
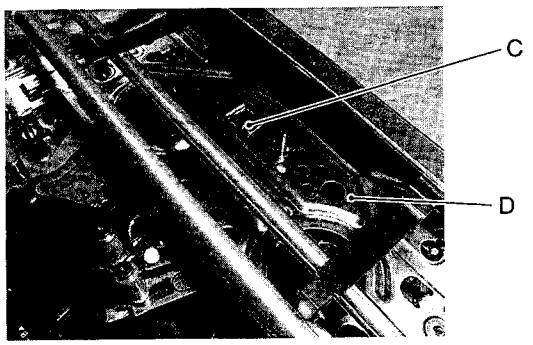
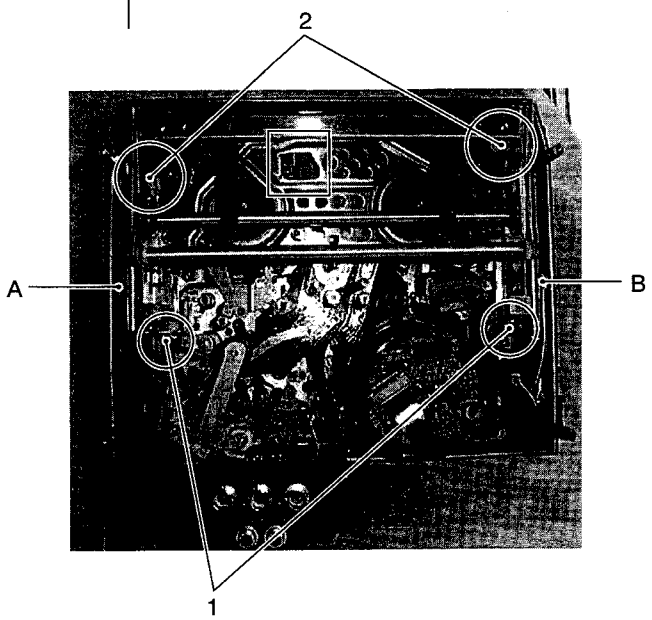


Fig. 2-6-1 1000-Hour Periodical Maintenance Flowchart

No.	Item	Reference Diagrams	Procedure

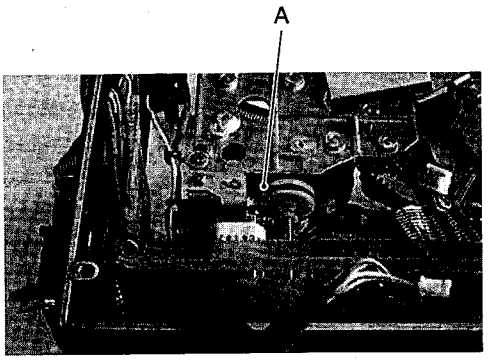
2.6.2 Cassette housing assembly replacement

1	Removal	 **Fig. 2-6-2**	1. Remove the left side cover (see the section. 1.1.2).
		 **Fig. 2-6-3 (Enlarged view of section ○ in Fig. 2-6-2)**	2. Remove connectors A and B (see Fig. 2-6-2). 3. Remove the two screws 1 and loosen the two screws 2 (the screws 2 cannot be removed because they are held by a spring) (see Fig. 2-6-3). The right screw of screws 2 is located behind the door of the cassette housing assembly, so it should be loosened after pushing back the door.
		 **Fig. 2-6-4 (Enlarged view of section □ in Fig. 2-6-2)**	4. Remove claw C of the lock unit. This unlocks the cassette housing and opens the cassette housing assembly D (see Fig. 2-6-4). 5. Remove cassette housing assembly D.

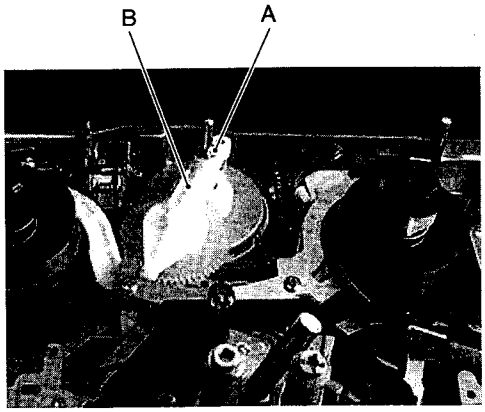
No.	Item	Reference Diagrams	Procedure
1	Attaching	 **Fig. 2-6-5**	1. Attach cassette housing assembly D using the two screws 1 (see Fig. 2-6-5). The tighten torque of each screw should be 0.27 N-m (3 kgf-cm). 2. Push the pantograph section of the cassette housing assembly to close it. 3. Push the door of cassette housing assembly, and then, tighten the two screws 2 (see Fig. 2-6-5). 4. Attach connectors A and B (see Fig. 2-6-5).

No.	Item	Reference Diagrams	Procedure

2.6.3 Belt replacement

1	Removal	 Fig. 2-6-6	1. Remove the S/S REG and the PRE/REC boards. (see sub section 1.2.6) 2. Remove belt A (see Fig. 2-6-6).
2	Attaching		1. Attach by reversing the removal procedure.

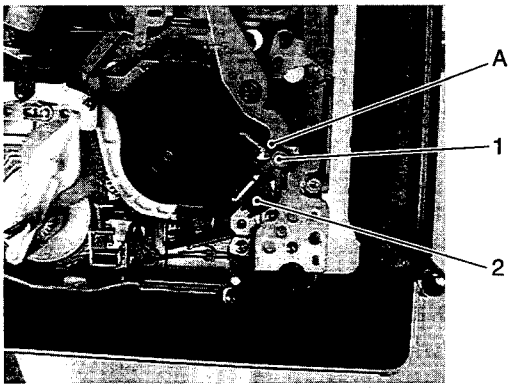
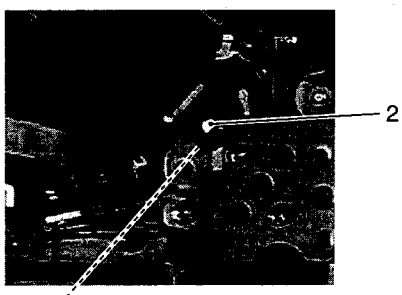
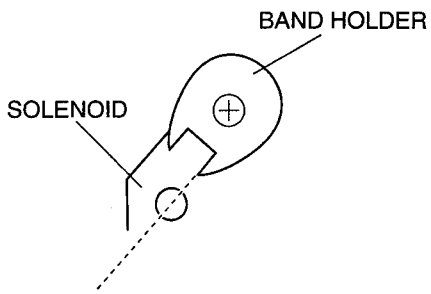
2.6.4 Idler arm assembly replacement

1	Removal	 Fig. 2-6-7	1. Remove the cassette housing assembly. (see sub section 2.6.2) 2. Remove E-washer A (see Fig. 2-6-7). 3. Remove idler arm assembly by lifting it (see Fig. 2-6-7).
2	Attaching		1. Attach by reversing the removal procedure.

No.	Item	Reference Diagrams	Procedure

2.6.5 Take-up tension band assembly replacement

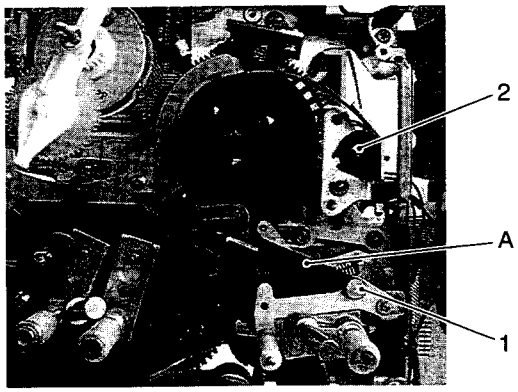
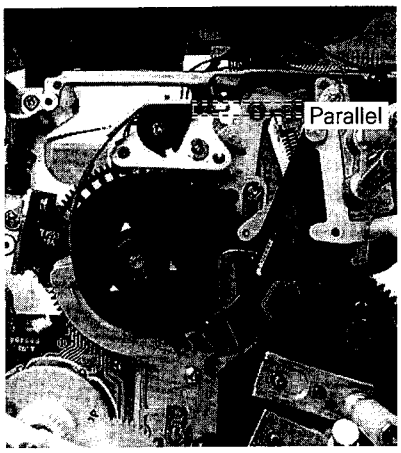
[CAUTION] • The reverse mode torque should be adjusted after replacing the take-up tension band assembly.

1	Removal	 **Fig. 2-6-8**	1. Remove the cassette housing assembly (see Fig. 2-6-2). 2. Remove slit washer 1 (see Fig. 2-6-8). 3. Remove the screw 2, then remove the take-up tension band assembly A (see Fig. 2-6-8).
2	Attaching	 **Fig. 2-6-9**  Attach so that the center of the hole on the solenoid bracket is aligned with the extension of the left edge of the dented part of the band holder. **Fig. 2-6-9 (Enlargement)**	1. Attach by reversing the removal procedure. 2. Attach the screw 2 so that the take-up tension band assembly A comes in the position indicated in Fig. 2-6-9. 3. Adjust the reverse torque. (see subsection 2.9.2)

No.	Item	Reference Diagrams	Procedure

2.6.6 Supply tension band assembly replacement

[CAUTION] • The play mode torque should be adjusted after replacing the supply tension band assembly.

1	Removal	 **Fig. 2-6-10**	1. Remove the cassette housing assembly (see Fig. 2-6-2). 2. Remove slit washer 1 (see Fig. 2-6-10). 3. Remove the screw 2, then remove the supply tension band assembly A (see Fig. 2-6-10).
2	Attaching	 **Fig. 2-6-11**	1. Attach by reversing the removal procedure. 2. Attach the screw 2 so that the supply tension band assembly A comes in the position indicated in Fig. 2-6-11. 3. Adjust the play torque. (see sub section 2.9.3)

No.	Item	Reference Diagrams	Procedure

2.6.7 Sub-brake replacement

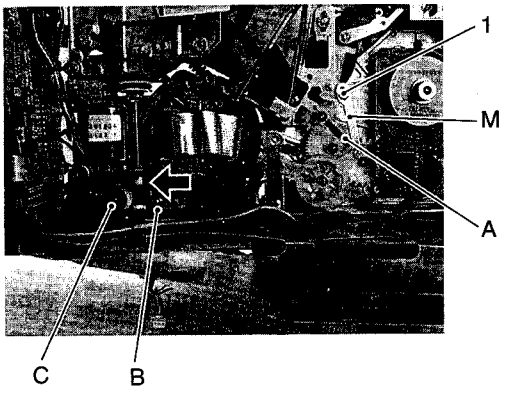
1	Removal		1. Remove spring A and screw 1 (see Fig. 2-6-12). 2. Remove the timing belt B from the position of the worm wheel C (see the section. 2-6-12).

Fig. 2-6-12

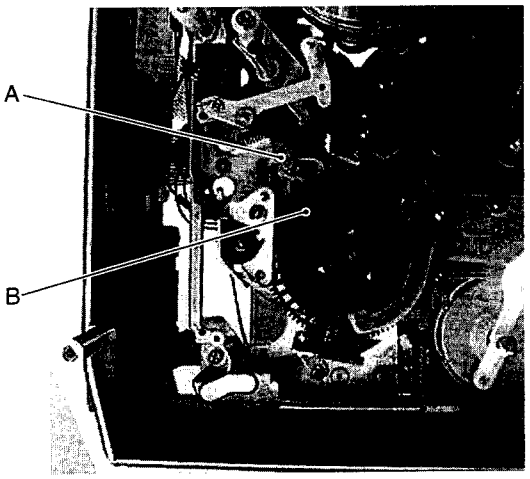


Fig. 2-6-13

3. Advance the timing belt B by rotating it in the direction of the arrow (see Fig. 2-6-14) until arm A of the supply pole base assembly moves to a position where the arm is not in the way when the supply reel disk assembly is removed (see Fig. 2-6-13).

No.	Item	Reference Diagrams	Procedure

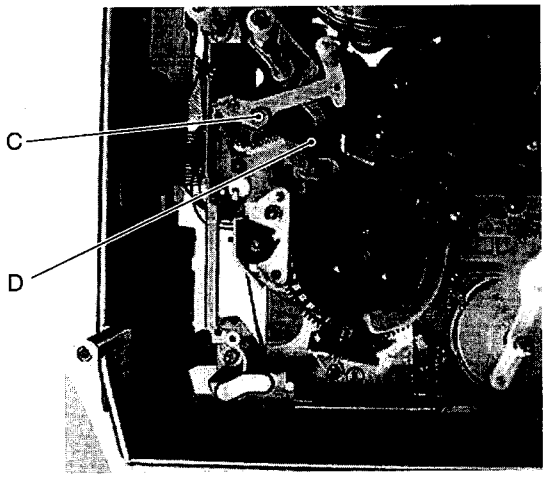


Fig. 2-6-14

4. Remove slit washer C and the screw 1, then remove the supply tension band assembly D (See Fig. 2-6-14).

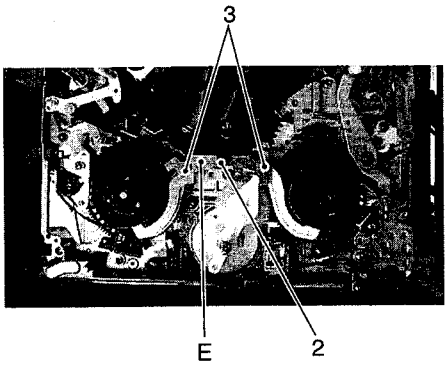
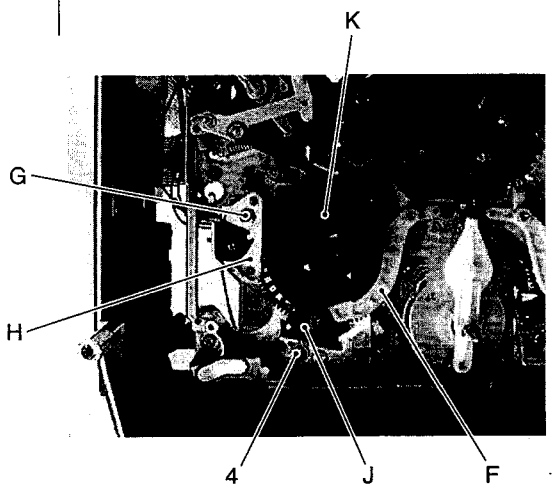
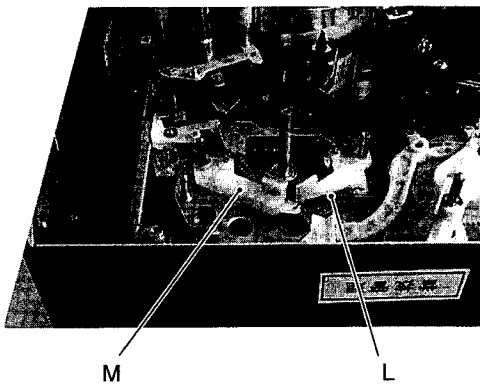
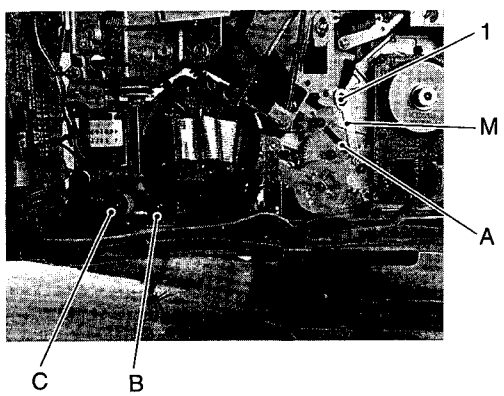


Fig. 2-6-15

5. Remove the screw 2 and the two screws 3, then remove the arm guide E (see Fig. 2-6-15).

No.	Item	Reference Diagrams	Procedure
		 **Fig. 2-6-16**	6. Remove supply brake arm assembly F by lifting it (see Fig. 2-6-16). 7. Remove E-washer G then remove band holder bracket assembly H (see Fig. 2-6-16). 8. Remove the screw 4 then remove the SP REEL FG board J (see Fig. 2-6-16). 9. Remove supply reel disk assembly K by lifting it (see Fig. 2-6-16). **[CAUTION]** • Be sure to use the same reel disk assemlby.
		 **Fig. 2-6-17**	10. Remove spring L then remove sub-brake assembly M by lifting it (see Fig. 2-6-17).
2	Attaching	 **Fig. 2-6-18**	1. Attach by reversing the removal procedure (see Fig. 2-6-18). After this, adjust the timing belt tension (see the subsection. 2.7.12).

2.7 PERIODICAL MAINTENANCE AT EVERY 2000 HOURS

2.7.1 2000-hour periodical maintenance flowchart

Fig. 2-7-1 shows the procedure of the periodical maintenance operation to be performed after every 2000 hours of operation.

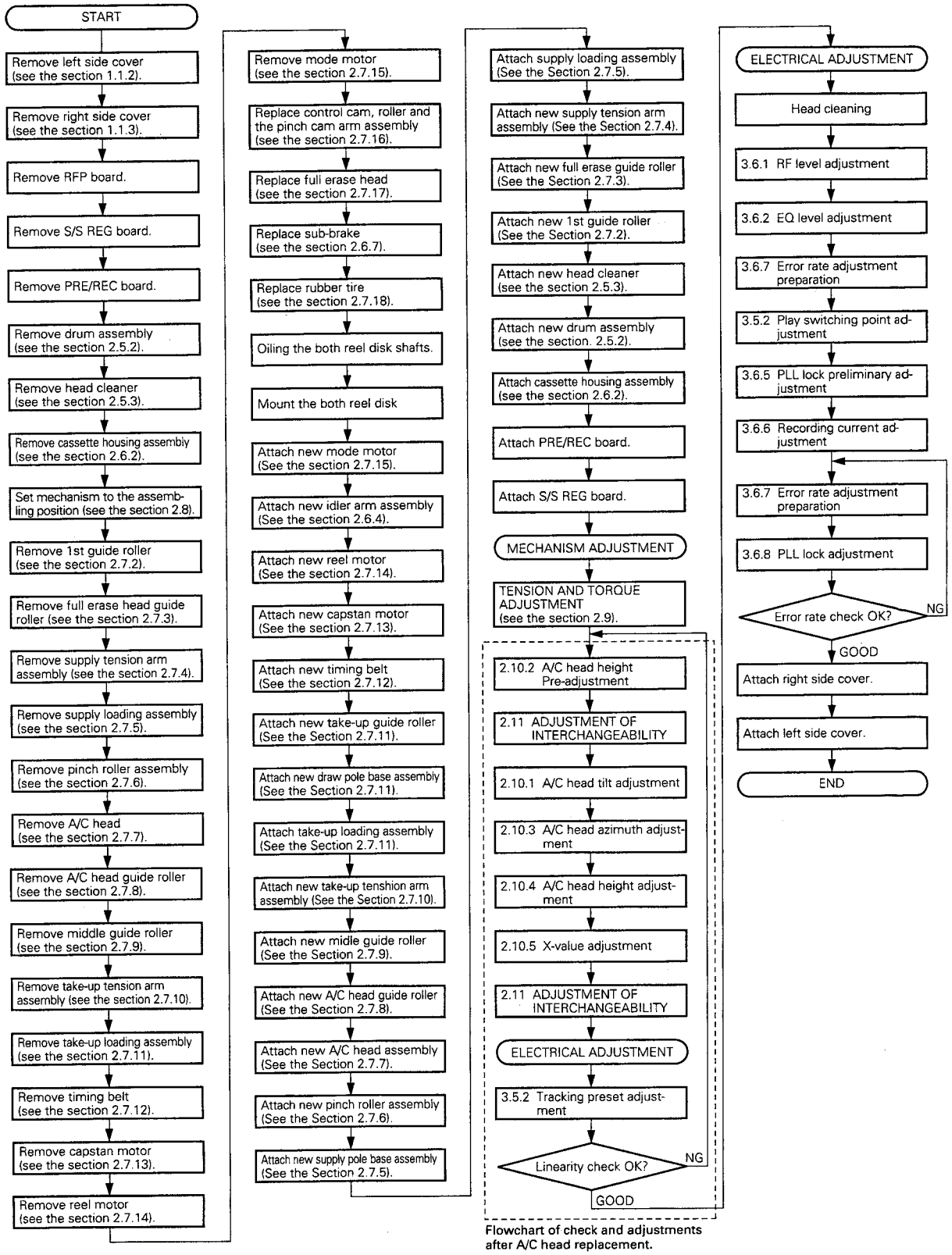
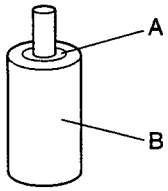


Fig. 2-7-1 2000-Hour Periodical Maintenance Flowchart

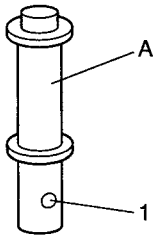
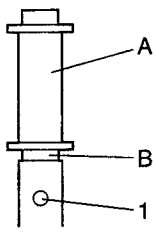
No.	Item	Reference Diagrams	Procedure

2.7.2 1st guide roller replacement

1	Removal	 **Fig. 2-7-2**	1. Remove slit washer A (see Fig. 2-7-2). 2. Remove 1st guide roller B (see Fig. 2-7-2).
2	Attaching		1. Attach by reversing the removal procedure.

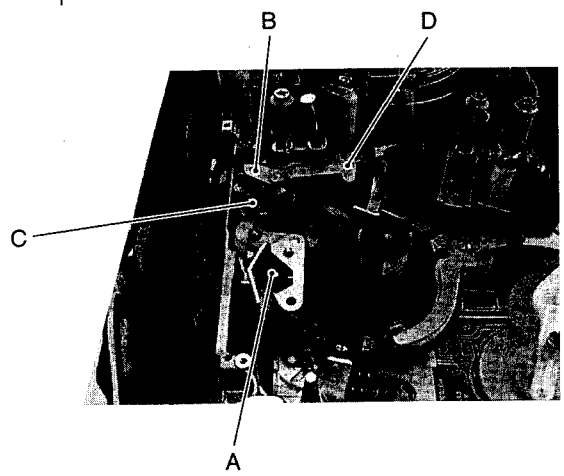
2.7.3 Full erase head guide roller replacement

[CAUTION] • Check the tape transport system after replacing the full erase head guide roller.

1	Removal	 **Fig. 2-7-3**	1. Loosen the set screw 1 (which does not have to be removed) (see Fig. 2-7-3). 2. Remove the full erase head guide roller A by rotating it counterclockwise (see Fig. 2-7-3).
2	Attaching	 **Fig.2-7-4**	1. Attach the full erase head guide roller A by inserting and rotating it clockwise. Attach it so that rubber ring B comes in light contact with the surface (see Fig. 2-7-4). 2. Check the tape transport system. (see subsection 2.11) 3. Tighten the set screws 1 in order to fix the full erase head guide roller A.

No.	Item	Reference Diagrams	Procedure

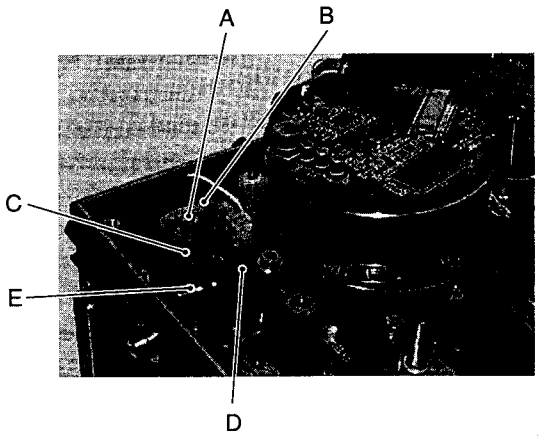
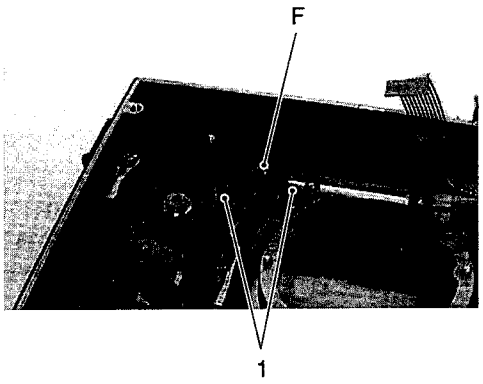
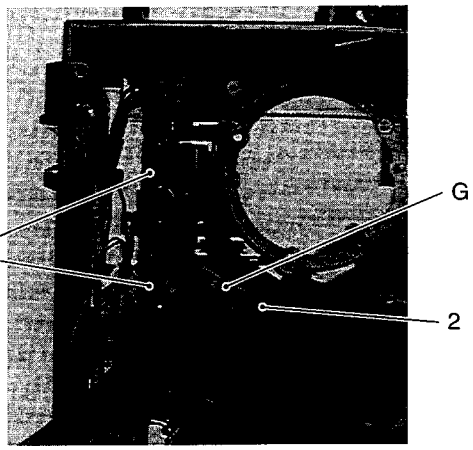
2.7.4 Supply tension arm assembly replacement

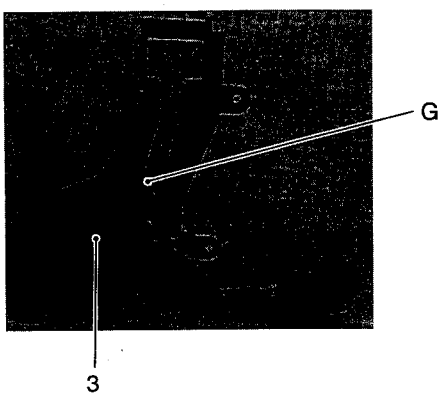
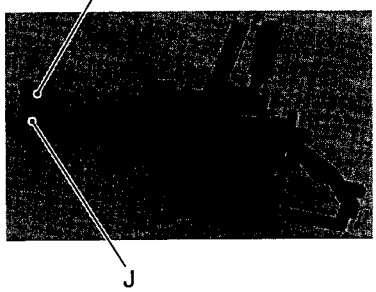
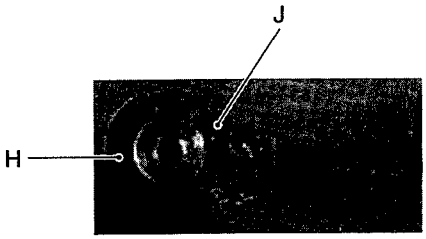
1	Removal	 **Fig. 2-7-5**	1. Remove screw A (see Fig. 2-7-5). 2. Remove the E-washer B then remove spring C (see Fig. 2-7-5). 3. Remove the supply tension arm assembly D by pulling it upward.
2	Attaching		1. Attach by reversing the removal procedure. 2. Attach the screw A by referring to Section 2.6.6. 3. Adjust the play torque. (see subsection 2.9.3)

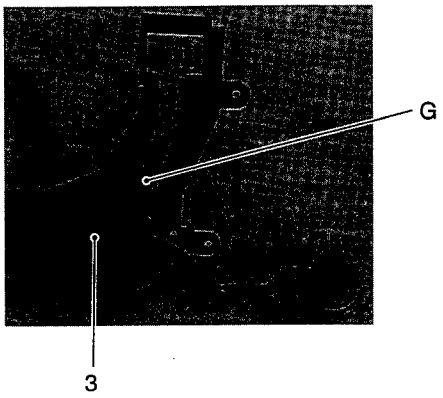
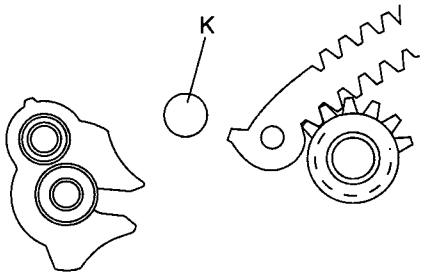
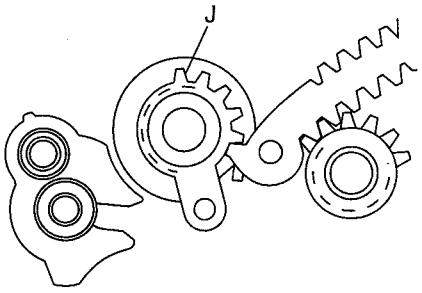
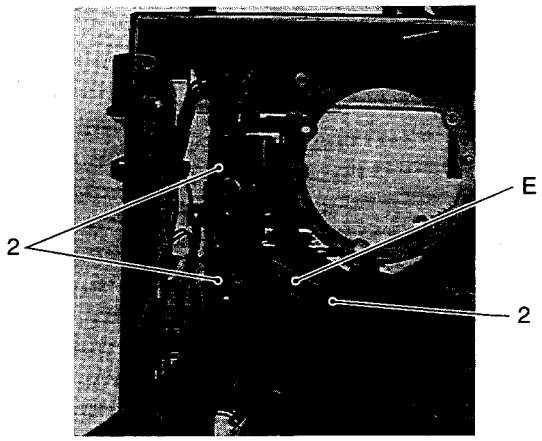
No.	Item	Reference Diagrams	Procedure

2.7.5 Supply pole base assembly and supply loading gear replacement

[CAUTION] • Before replacement, set the mechanism to the position indicated by Section "2.8 MECHANISM ASSEMBLING POSITION".
• Check the transport system after replacing the supply pole base assembly.

2	Removal of supply loading assembly	 **Fig. 2-7-6**	1. Remove E-washer A, then head cleaner assembly B, spring C, full erase head assembly D and spring E (see Fig. 2-7-6). 2. Remove supply tension arm assembly (see the section 2.7.4).
		 **Fig. 2-7-7**	3. Remove the two screws 1 then remove the supply catcher F (see Fig. 2-7-7).
		 **Fig. 2-7-8**	4. Remove the three screws 2 while rotating the supply pole base assembly G slightly clockwise (see Fig. 2-7-8). 5. Remove the supply loading assembly by lifting it.

No.	Item	Reference Diagrams	Procedure
2	Removal of supply pole base assembly	 **Fig. 2-7-9**	6. Remove the screw 3; this lets the supply pole base assembly come out (see Fig. 2-7-9).
3	Removal of the supply loading gear	 **Fig. 2-7-10**	7. Remove the spring H; this lets the supply loading gear J come out (see Fig. 2-7-10).
4	Attaching supply loading gear	 **Fig. 2-7-11**	1. Fit the supply loading gear J onto the shaft and attach spring H (attach it so that the longer hook of the spring comes on the gear side, the shorter hook comes on the arm side, and the opened side of each hook faces the inner side).

No.	Item	Reference Diagrams	Procedure
5	Attaching the supply pole base assembly	 Fig. 2-7-12	2. Attach the supply pole base assembly G using the screws 3. The securing torque should be 0.14 N-m (1.5 kgf-cm) (see Fig. 2-7-12).
6	Attaching the supply loading assembly	 Fig. 2-7-13  Fig. 2-7-14	3. Attach the supply loading gear J onto the support K on the deck so that the support fits into the hole on the gear (see Fig. 2-7-13). Attach it so that the gears are meshed as shown in Fig. 2-7-14. 4. Attach the three screws 2 while rotating the supply pole base assembly G slightly clockwise (see Fig. 2-7-15).  Fig. 2-7-15

No.	Item	Reference Diagrams	Procedure

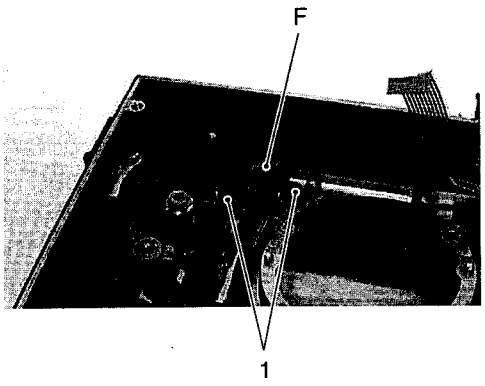


Fig. 2-7-16

5. Attach the supply catcher F using the two screws 1 (see Fig. 2-7-16).
6. Attach the supply tension arm assembly (see the section 2.7.4).

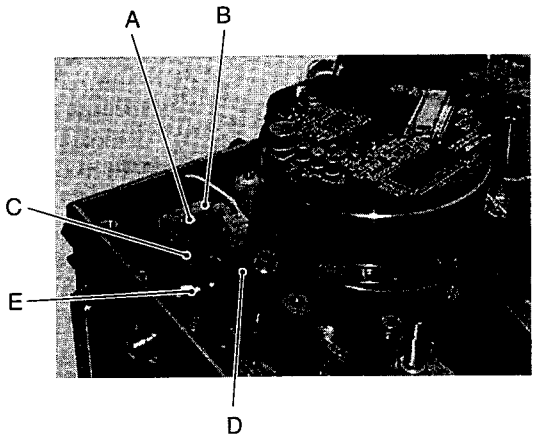


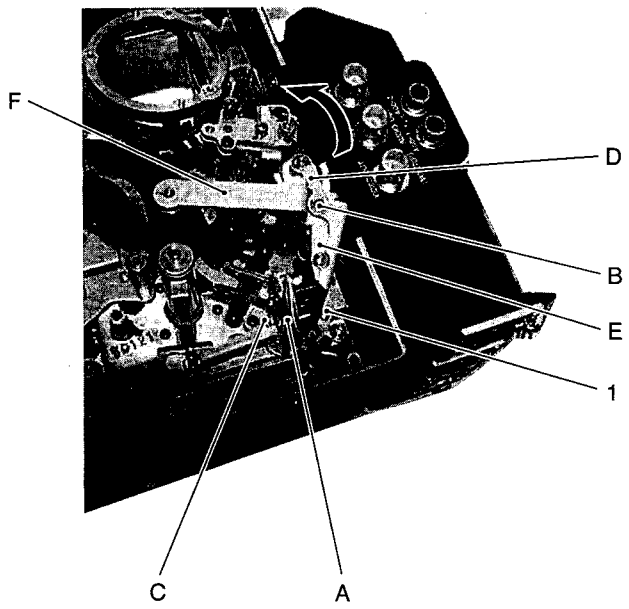
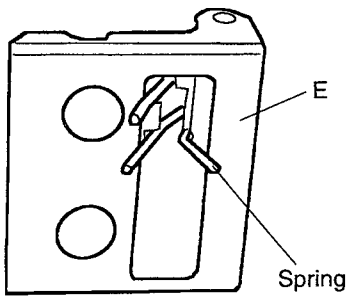
Fig. 2-7-17

7. Attach the spring E, fully erase head assembly D, spring C, head cleaner assembly B and E-washer A (see Fig. 2-7-17).

No.	Item	Reference Diagrams	Procedure

2.7.6 Pinch roller assembly

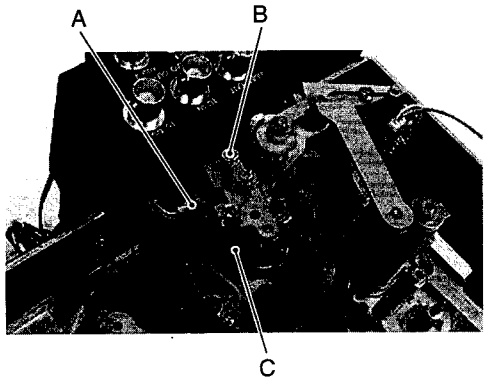
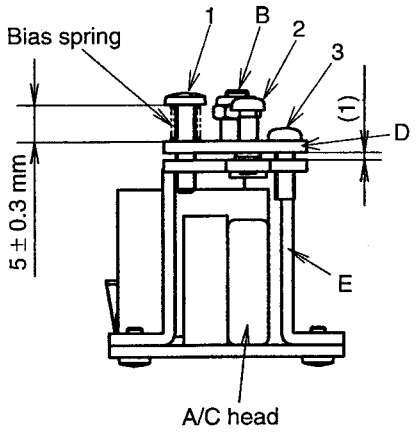
[CAUTION] • Before replacement, set the mechanism to the position indicated in subsection "2.8 MECHANISM ASSEMBLING POSITION".

1	Removal	 **Fig. 2-7-18**	1. Remove screw 1 then remove AL SENS board A (see Fig. 2-7-18). 2. Remove E-washers B and C (see Fig. 2-7-18). 3. Rotate plate D in the direction of the arrow, then remove pinch lock lever E and pinch roller assembly F by lifting them (see Fig. 2-7-18).
2	Attaching		1. Attach by reversing the removal procedure. **Note:** • Attach the pinch lock lever E and spring as shown below. 

No.	Item	Reference Diagrams	Procedure

2.7.7 A/C head replacement

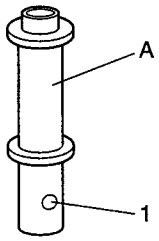
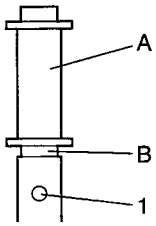
[CAUTION] • After replacing the A/C head, be sure to perform the adjustments as shown in Fig. 2-7-1.

1	Removal	 **Fig. 2-7-19**	1. Remove connector A from the A/C head board (see Fig. 2-7-19). 2. Remove A/C head assembly C by removing nut B then lifting the A/C head assembly by turning it slightly counterclockwise.
2	Attaching	 **Fig. 2-7-20**	1. Check that the clearance between A/C head arm D and A/C head base E of A/C head assembly C is 1 mm, that the A/C head arm and A/C head base are parallel and that the height of the bias spring adjustment screw 1 is 5 mm (see Fig. 2-7-20). 2. Attach the A/C head by reversing the removal procedure. 3. Perform checks and adjustments as indicated in Fig. 2-7-1, "Flowchart of Check and Adjustments After A/C Head Replacement".

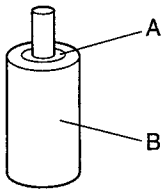
No.	Item	Reference Diagrams	Procedure

2.7.8 A/C head guide roller replacement

[CAUTION] • Check the transport system after replacing the A/C head guide roller.

1	Removal	 **Fig. 2-7-22**	1. Loosen set screw 1 (which does not have to be removed) (see Fig. 2-7-22). 2. Remove A/C head guide roller A by rotating it counterclockwise.
2	Attaching	 **Fig. 2-7-23**	1. Attach A/C head guide roller A by inserting it and rotating it clockwise. Attach so that rubber ring B comes in light contact with the attached plane (see Fig. 2-7-23). 2. Check the tape transport system. 3. Tighten set screws 1 to fix A/C head guide roller A.

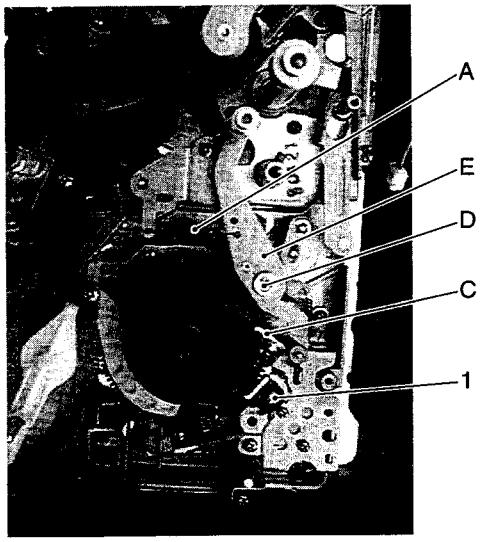
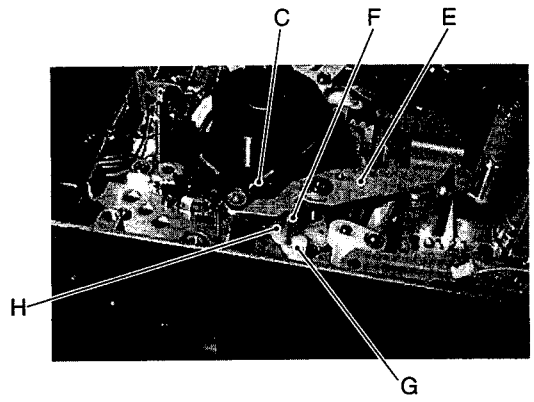
2.7.9 Middle guide roller replacement

1	Removal	 **Fig. 2-7-24**	1. Remove slit washer A (see Fig. 2-7-24). 2. Remove middle guide roller B (see Fig. 2-7-24).
2	Attaching		1. Attach by reversing the removal procedure.

No.	Item	Reference Diagrams	Procedure

2.7.10 Take-up tension arm assembly replacement

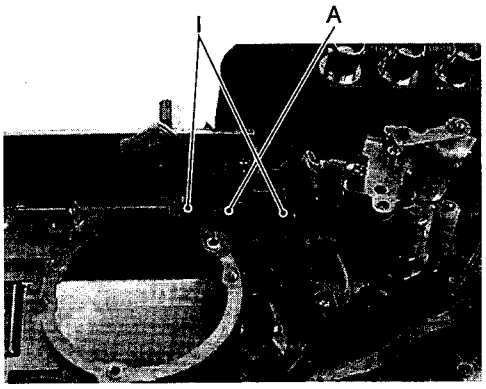
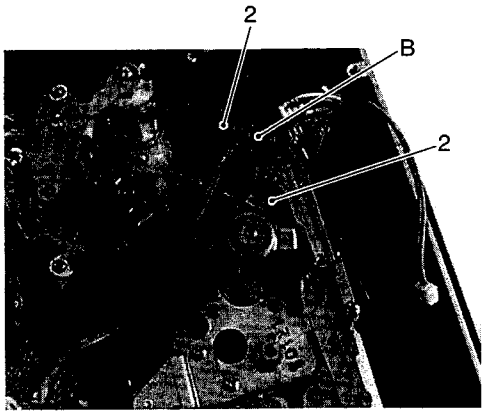
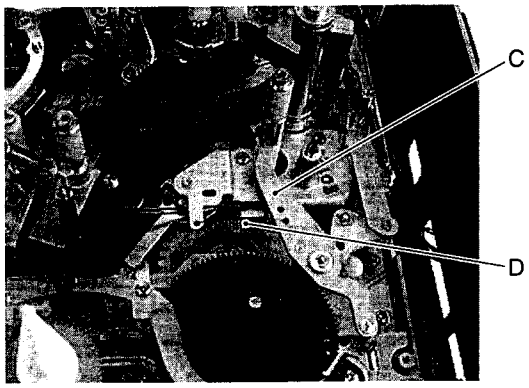
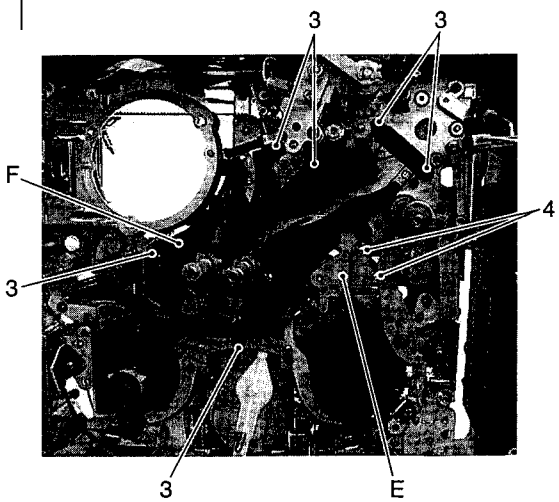
[CAUTION] • Check the transport system after replacing the take-up tension arm assembly.

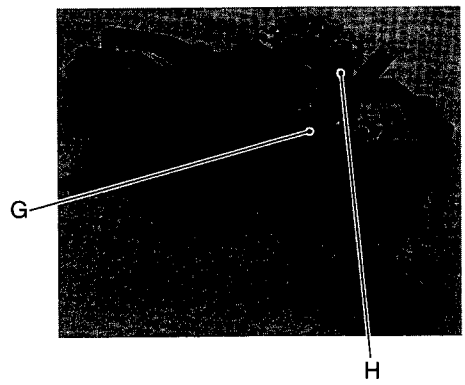
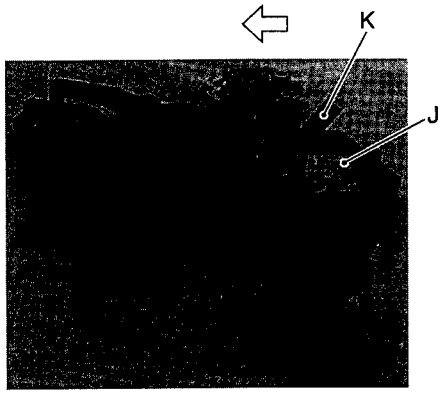
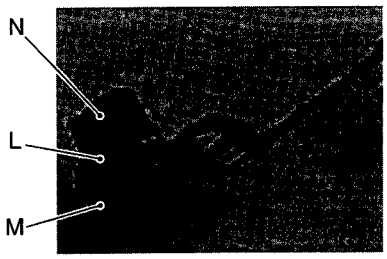
1	Removal	 **Fig. 2-7-25**	1. Remove spring A (see Fig. 2-7-25). 2. Remove screw 1. 3. Remove E-ring D; this lets the take-up tension arm assembly E come out.
2	Attaching	 **Fig. 2-7-26**	1. Attach take-up tension arm assembly E so that lever F of the take-up tension arm assembly enters between the two levers G and H as shown in Fig. 2-7-26. 2. Attach E-ring D (see Fig. 2-7-25). 3. Attach take-up tension band C using screw 1 (see subsection 2.6.5) 4. Attach spring A (see Fig. 2-7-25). 5. Adjust the reverse torque. (see subsection 2.9.2)

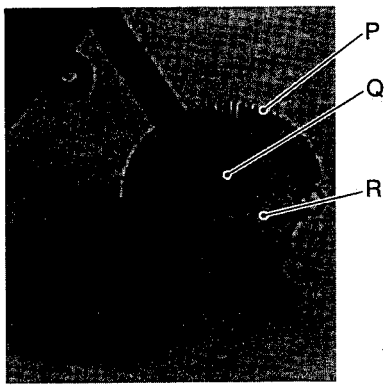
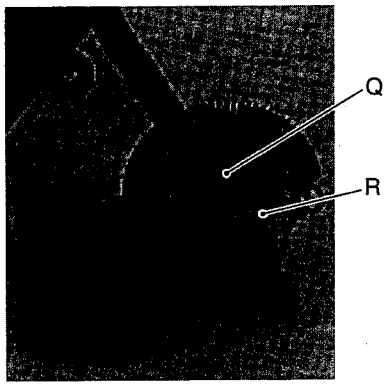
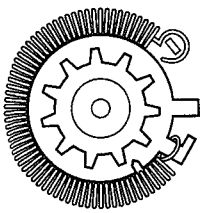
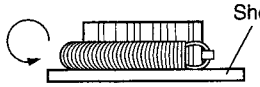
No.	Item	Reference Diagrams	Procedure

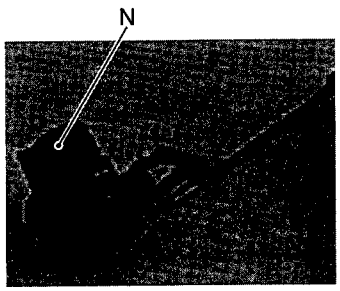
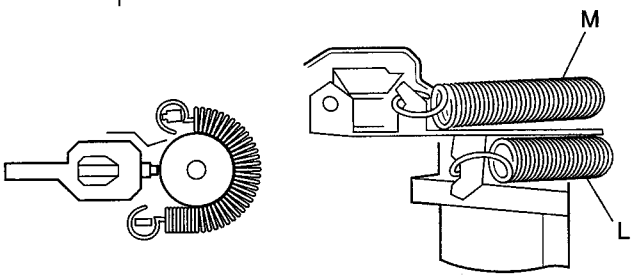
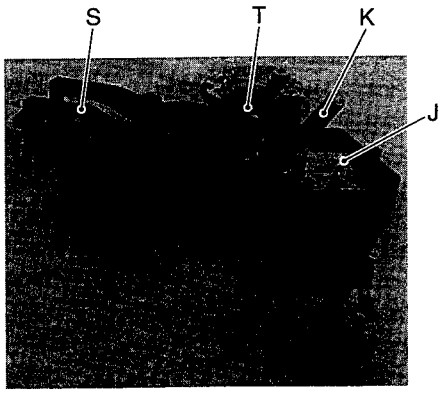
2.7.11 Take-up guide roller, draw pole base assembly and take-up loading assembly replacement

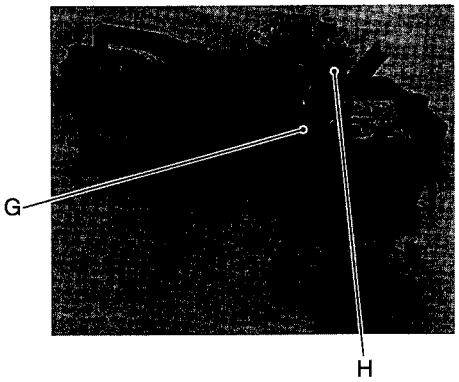
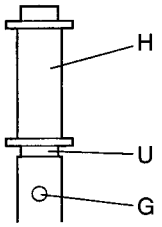
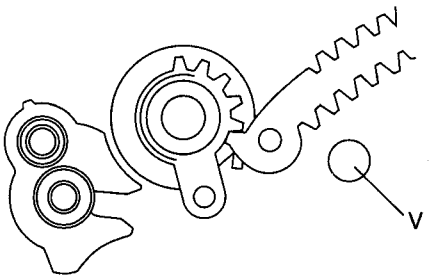
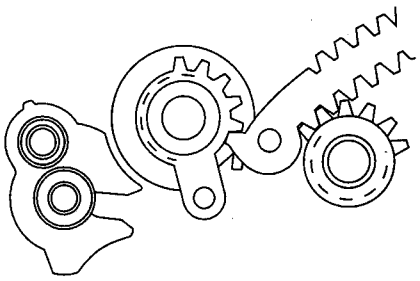
[CAUTION] • Before replacement, set the mechanism to the position indicated by subsection "2.8 MECHANISM ASSEMBLING POSITION".
• Check the transport system after replacing each assembly.

1	Removal of take-up loading assembly	 Fig. 2-7-27	1. Remove pinch roller assembly (see the section 2.7.6). 2. Remove supply loading assembly (see the section 2.7.5). 3. Remove the three screws 1 then remove take-up catcher A (see Fig. 2-7-27).
		 Fig. 2-7-28	4. Remove the two screws 2 then remove draw catcher B (see Fig. 2-7-28).
		 Fig. 2-7-29	5. Remove spring D from take-up tension arm assembly (see Fig. 2-7-29). 6. Remove the six screws 3 (see Fig. 2-7-30). 7. Remove the two screws 4 which retain draw loading arm assembly; this lets the take-up loading assembly F come out (see Fig. 2-7-30).
		 Fig. 2-7-30	

No.	Item	Reference Diagrams	Procedure
2	Removal of take-up guide roller	 **Fig. 2-7-31**	1. Loosen screw G and remove the take-up guide roller H by rotating it counterclockwise (see Fig. 2-7-31).
3	Removal of draw pole base assembly	 **Fig. 2-7-32**	2. Remove E-washer J then remove draw pole base assembly K by sliding it in the direction of the arrow (see Fig. 2-7-32).
4	Removal of take-up loading gear	 **Fig. 2-7-33**	3. Remove springs L and M; this lets the take-up loading gear N come out (see Fig. 2-7-33).

No.	Item	Reference Diagrams	Procedure
5	Removal of draw loading gear	 **Fig. 2-7-34**	4. Remove spring P (see Fig. 2-7-34). 5. Remove slit washer Q; this makes it possible to remove draw loading gear R.
6	Attaching draw loading gear	 **Fig. 2-7-35**  (a) Top view  Remove clearance between the spring and the sheet metal by twisting the spring in the direction of the arrow. (b) Side view **Fig. 2-7-36**	1. Fit draw loading gear R onto the shaft and retain it by using the slit washer Q (see Fig. 2-7-35). 2. Attach spring P (so that the longer hook of the spring comes on the gear side, the shorter hook comes on the arm side, and the opened side of each hook faces the inner side) (see Fig. 2-7-36).

No.	Item	Reference Diagrams	Procedure
7	Attaching take-up loading gear	 Fig. 2-7-37  (a) Top view (b) Side view Fig. 2-7-38	1. Fit take-up loading gear N onto the shaft (see Fig. 2-7-35). 2. Attach springs L and M (so that the longer hook of each spring comes on the gear side, the shorter hook comes on the arm side, and the opened side of each hook faces the inner side) (see Fig. 2-7-38).
8	Attaching draw pole base assembly	 Fig. 2-7-39	1. Position the draw pole base assembly K on the take-up guide rail S, thread the shaft of the draw loading arm assembly T through from the bottom side, and secure it by using the E-washer J (see Fig. 2-5-39).

No.	Item	Reference Diagrams	Procedure
9	Attaching the take-up guide roller	 **Fig. 2-7-40-A**	2. Attach take-up guide roller H by inserting it and rotating it clockwise. Attach so that rubber ring U comes in light contact with the attached plane (see Fig. 2-7-40-B).  **Fig. 2-7-40-B**
10	Attaching the take-up loading assembly	 **Fig. 2-7-41**  **Fig. 2-7-42**	1. Attach the take-up loading gear N onto the support V on the deck so that the support fits into the hole in the gear (see Fig. 2-7-41). Attach so that the gears are meshed as shown in Fig. 2-7-42.

No.	Item	Reference Diagrams	Procedure

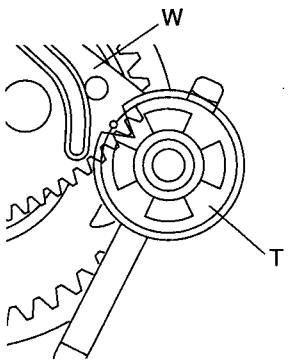


Fig. 2-7-43

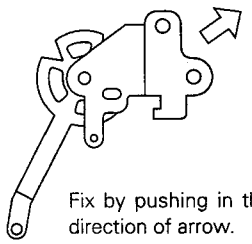


Fig. 2-7-44

2. Fix the draw loading arm assembly by using the two screws 4 so that the notch on the draw loading arm T faces towards the hole on the loading arm gear W (see Figs. 2-7-43 and 2-7-44).

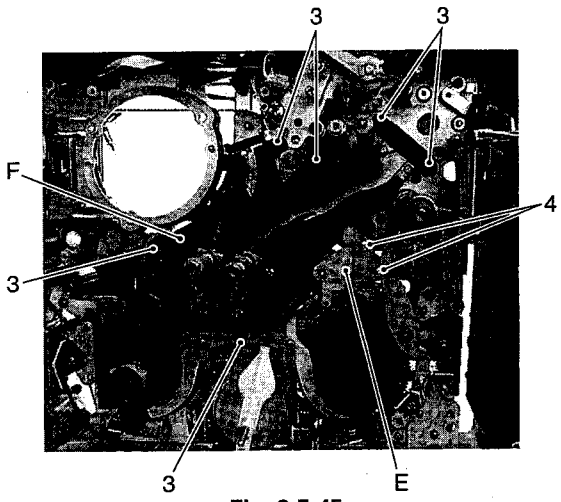


Fig. 2-7-45

3. Fix the take-up loading assembly F using the six screws 3 (see Fig. 2-7-45).

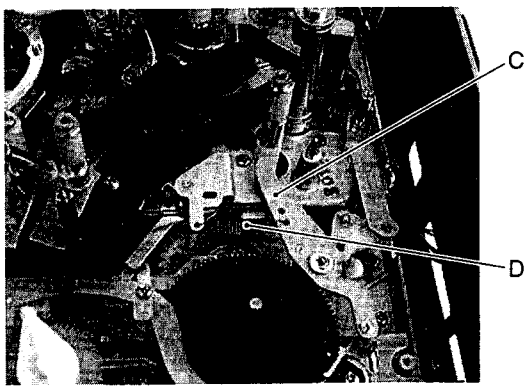
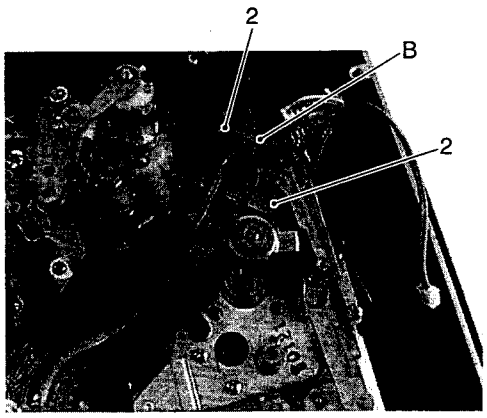
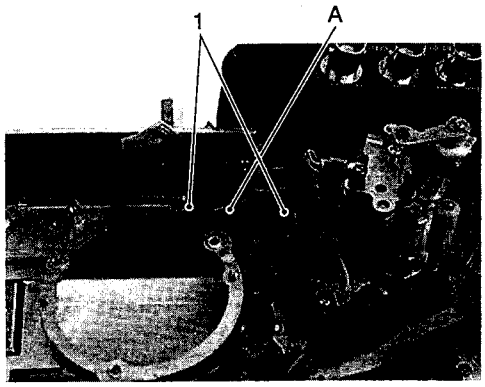


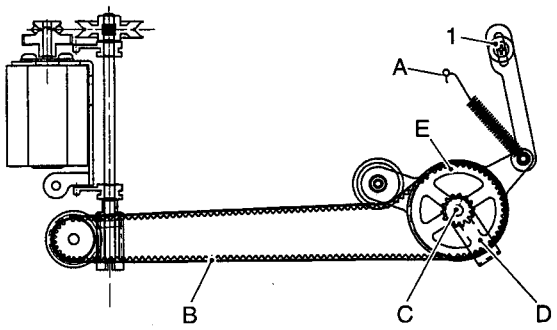
Fig. 2-7-46

4. Attach spring D to the take-up tension arm assembly C (see Fig. 2-7-46).

No.	Item	Reference Diagrams	Procedure
		 **Fig. 2-7-47**	5. Attach draw catcher B using the two screws 2 (see Fig. 2-7-47).
		 **Fig. 2-7-48**	6. Attach take-up catcher A using the two screws 1 (see Fig. 2-7-48). 7. Attach the supply loading assembly (see the section 2.7.5). 8. Attach the pinch roller assembly (see the section 2.7.6).

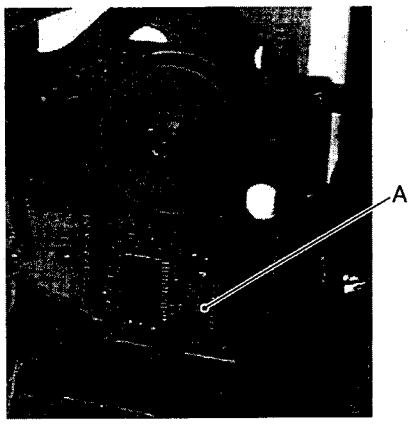
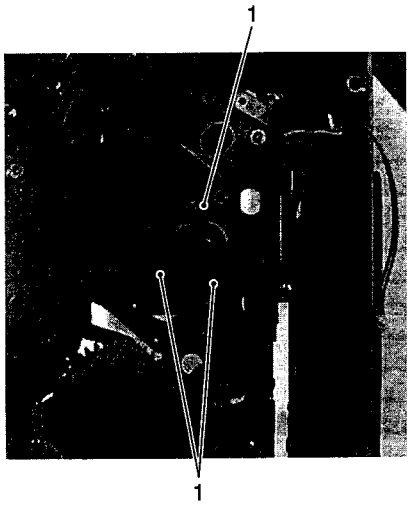
No.	Item	Reference Diagrams	Procedure

2.7.12 Timing belt replacement

1	Removal	 **Fig. 2-7-49**	1. Remove the S/S REG board and PRE/REC board. (see subsection 1.2.6) 2. Remove spring A, then remove the screw 1 (see Fig. 2-7-49). 3. Remove timing belt B (see Fig. 2-7-49). 4. Remove E-washer C (see Fig. 2-7-49). 5. Remove belt B together with BR arm assembly D and belt gear E (see Fig. 2-7-49).
2	Attaching		1. Attach by reversing the removal procedure, except that the screw 1 should be attached after having attached spring A.
3	Tension adjustment		1. Adjust the timing belt tension as described below. A) Attach spring A. B) Check that timing belt B is under tension, and tighten the screw 1 so that the current tension is maintained.

No.	Item	Reference Diagrams	Procedure

2.7.13 Capstan motor replacement

1	Removal	 **Fig. 2-7-50**	1. Remove connector A (on the back side of the main deck) (see Fig. 2-7-50).
		 **Fig. 2-7-51**	2. Remove the three screws 1 then remove the capstan motor (on the back side of the main deck) (see Fig. 2-7-51). The capstan motor can be removed by pulling it out from the back side of the main deck.
2	Attaching		1. Attach by reversing the removal procedure. 2. Adjust the subsection "3.5.1 Capstan motor automatic adjustment".

No.	Item	Reference Diagrams	Procedure

2.7.14 Reel motor replacement

1 Removal

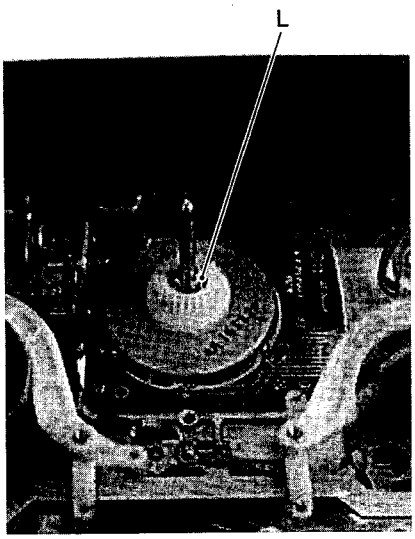


Fig. 2-7-52

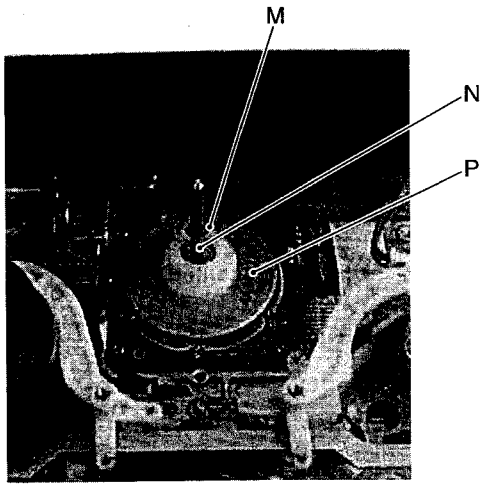


Fig. 2-7-53

1. Remove the supply reel disk (see items 1 to 9 of the subsection "2.6.7 Sub-brake replacement").
2. Remove the idler arm assembly (see sub section 2.6.4).
3. Remove E-washer L (see Fig. 2-7-52).
4. Remove washer M and spring N, then remove rotor P (see Fig. 2-7-53).

CAUTION

- Be careful when removing the rotor because it is strongly magnetized.

4. Remove the four screws 4, then remove the board of the reel motor (the flat wire is fixed by using double-sided adhesive tape) (see Fig. 2-7-54).

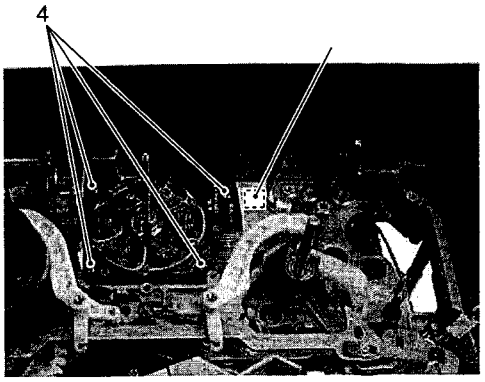


Fig. 2-7-54

2 Attaching

1. Attach by reversing the removal procedure.

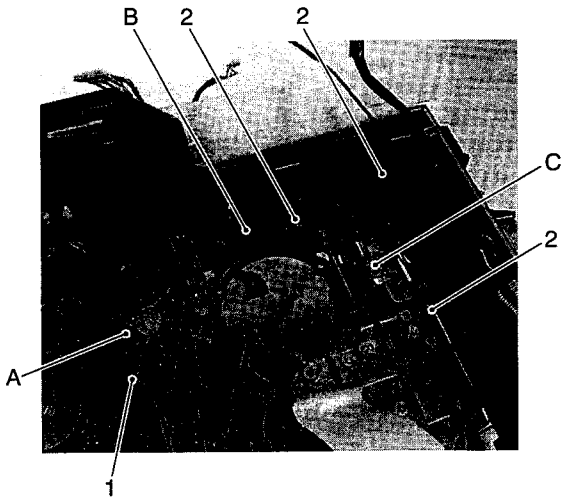
CAUTION

- Be careful when attaching the rotor because it is strongly magnetized.
- Put the name card or et cetra on the stater and then attach the rotor.
  After attach the rotor, remove the name card.

2. Adjust the subsection "2.9 TENSION AND TORQUE ADJUSTMENTS".

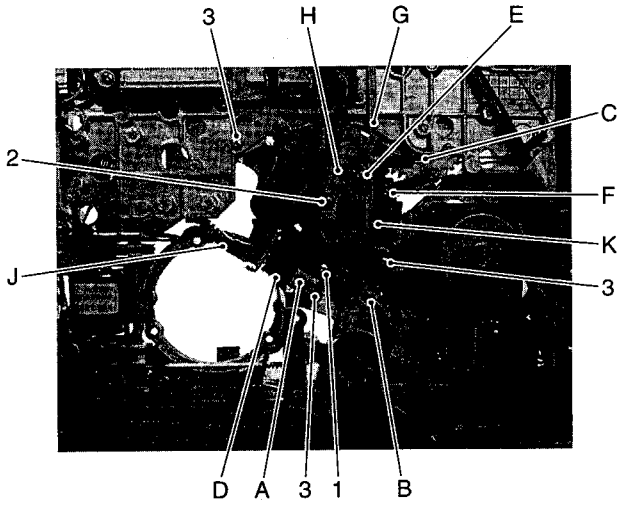
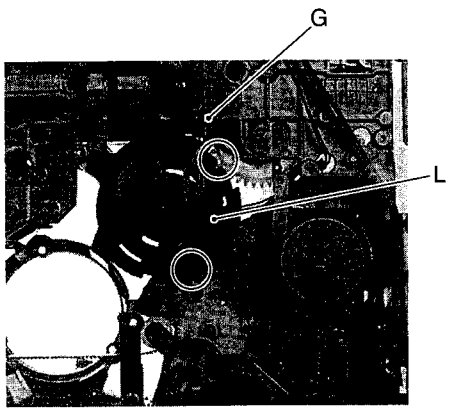
No.	Item	Reference Diagrams	Procedure

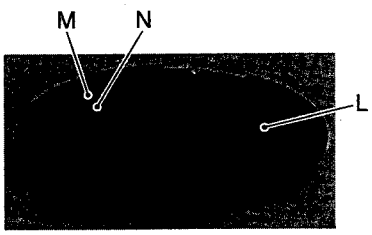
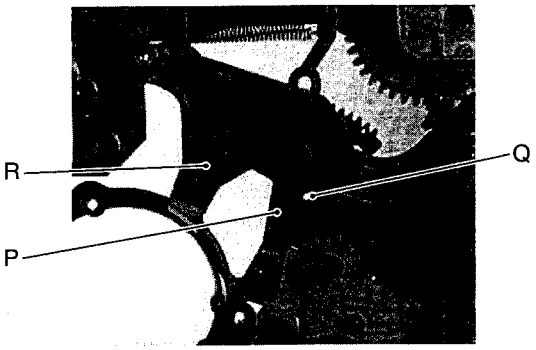
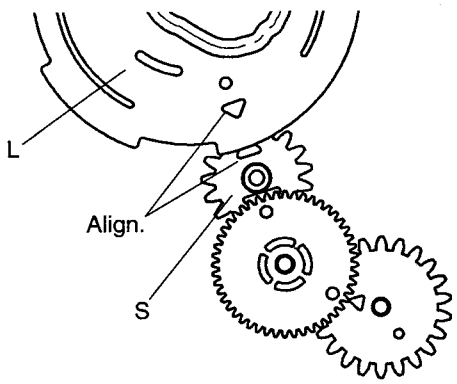
2.7.15 Mode motor replacement

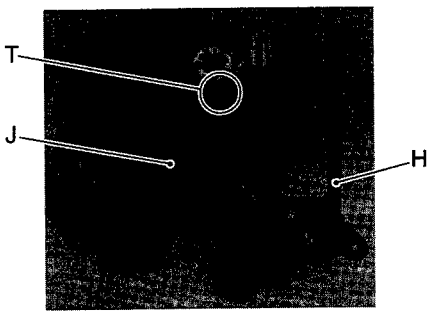
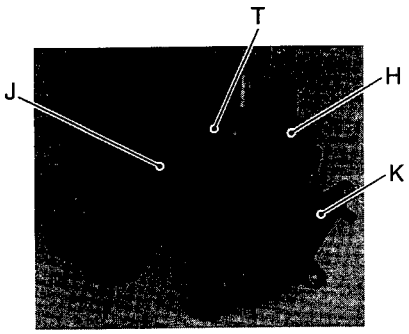
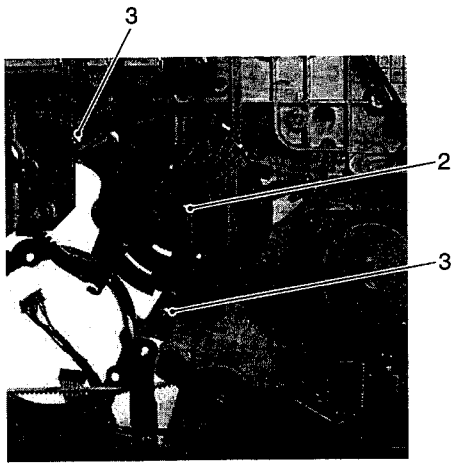
1	Removal	 **Fig. 2-7-55**	1. Remove the S/S REG board and PRE/REC board. 2. Remove spring A, then remove screw 1 (see Fig. 2-7-55). 3. Remove belt B. 4. Remove the three screws 2; this makes it possible to remove the mode motor assembly C.
2	Attaching		1. Attach by reversing the removal procedure. Be sure to adjust the timing belt tension (see subsection 2.7.12).

No.	Item	Reference Diagrams	Procedure

2.7.16 Control cam, roller and pinch cam arm assembly replacement

1	Removal of pinch cam arm assembly	 **Fig. 2-7-56**	1. Remove supply loading assembly (see subsection 2.7.5). 2. Remove take-up loading assembly (see subsection 2.7.11). 3. Remove connector A (see Fig. 2-7-56). 4. Remove springs B and C (see Fig. 2-7-56). 5. Remove screw 1, then remove MODE SENS board D (see Fig. 2-7-56). 6. Remove E-washers E and F (see Fig. 2-7-56). 7. Remove screw 2 and three screws 3 (see Fig. 2-7-56). 8. While lifting eject rod G, remove cam bracket assembly H and arm gear (L) assembly J (see Fig. 2-7-56). 9. Pinch cam arm assembly K is also removed at the same time as the above.
2	Removal of control cam	 **Fig. 2-7-57**	10. While lifting the eject rod G, remove the control cam L (see Fig. 2-7-57).

No.	Item	Reference Diagrams	Procedure
3	Removal of roller	 Fig. 2-7-58	1. Remove E-washer M; this makes it possible to remove roller N (see Fig. 2-7-58).
4	Attaching roller		1. Attach the roller N by reversing the removal procedure.
5	Attaching the control cam	 Fig. 2-7-59	2. Place arm gear (R) P in the assembling position (so that the hole Q of arm gear (R) P is aligned with the hole on the main deck) (see Fig. 2-7-59).
		 Fig. 2-7-60	3. Attach the control cam L in the assembling position (by aligning the small D marking on the cam idler gear S with the D marking on the control cam L) (see Fig. 2-7-60). Also insert stud R of the arm gear (R) into the groove on the control cam.

No.	Item	Reference Diagrams	Procedure
6	Attaching pinch cam arm ass'y	 **Fig. 2-7-61**  **Fig. 2-7-62**  **Fig. 2-7-63**	4. Place cam bracket assembly H and arm gear (L) assembly J in the assembling positions (see Fig. 2-7-61). (Hole T on cam bracket J should be aligned with the hole on arm gear (L) assembly H.) 5. Attach pinch cam arm K (see Fig. 2-7-62). 6. Tighten two screws 3 and 2 (see Fig. 2-7-63).

No.	Item	Reference Diagrams	Procedure

Fig. 2-7-64

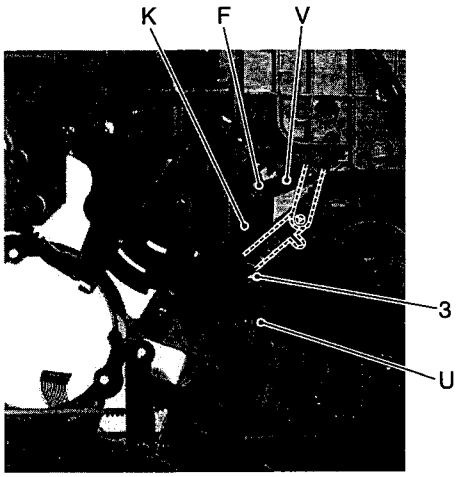


Fig. 2-7-65

7. Attach springs B and C (see Fig. 2-7-64).

8. Secure the adjust lever assembly U using the screw 3 (see Fig. 2-7-65).
9. Attach S-plate assembly V and pinch cam arm assembly K using E-washer F.

[CAUTION]

- The pinch cam arm assembly must be attached as shown in the diagram. If it is attached as shown by the dotted lines in Fig. 2-7-65, it will be impossible to crimp the pinch roller.

10. Attach eject rod G using E-washer E (see Fig. 2-7-66).
11. Attach MODE SENS board D using the screw 1 (see Fig. 2-7-66).
12. Attach the connector A (see Fig. 2-7-66).
13. Attach the take-up loading assembly (seesub section 2.7.11).
14. Attach the supply loading assembly (see subsection 2.7.5)

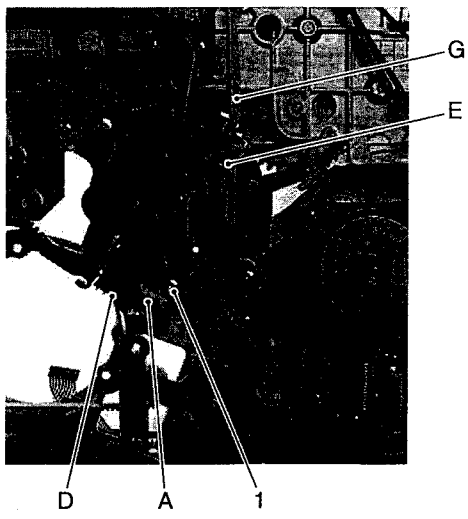
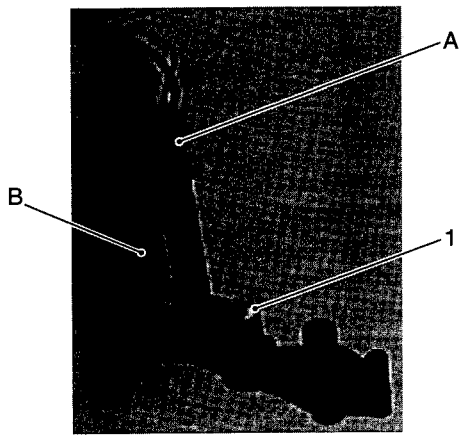


Fig. 2-7-66

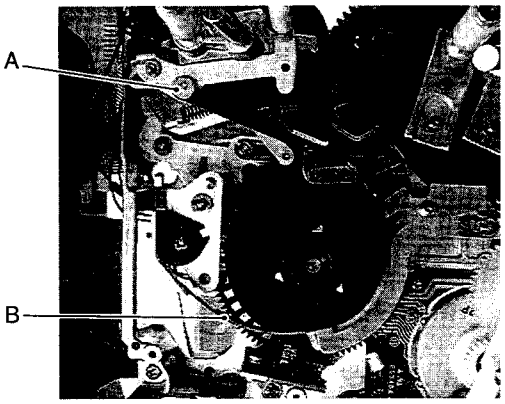
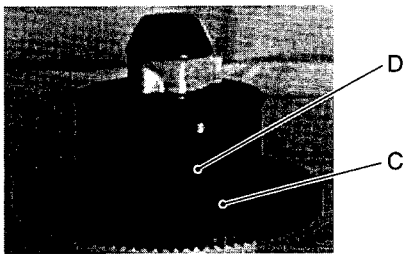
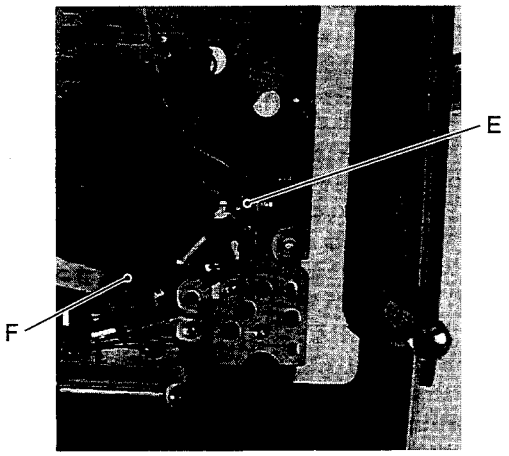
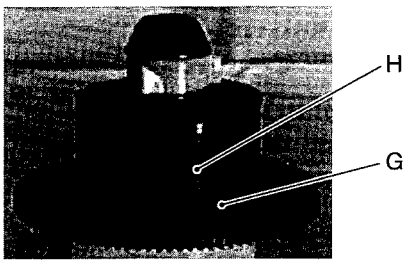
No.	Item	Reference Diagrams	Procedure

2.7.17 Full erase head replacement

1	Removal	 **Fig. 2-7-67**	1. Remove the full erase head assembly (see subsection 2.7.5 item No. 1). 2. Remove connector A (see Fig. 2-7-67). 3. Remove the screw 1; this makes it possible to remove the full erase head B (see Fig. 2-7-67).
2	Attaching		1. Attach by reversing the removal procedure. The tighten torque of screw 1 should be 0.59 N-m (6 kg f-cm). **[CAUTION]** • The full erase head must be tightened with the specified securing torque. Otherwise it will not be possible to achieve the specified precision in the full erase head attaching angle (vertical). If the full erase head is attached at an angle which is out of specification, the tape transport is affected, resulting in an alteration to the RF output waveform or in the wrinkling or twisting of the tape. 2. Check the transport system (see subsection 2.11). Particularly, ensure that the tape is not wrinkled or twisted around the supply guide roller or the full erase head guide roller and that the RF output waveform is not altered.

No.	Item	Reference Diagrams	Procedure

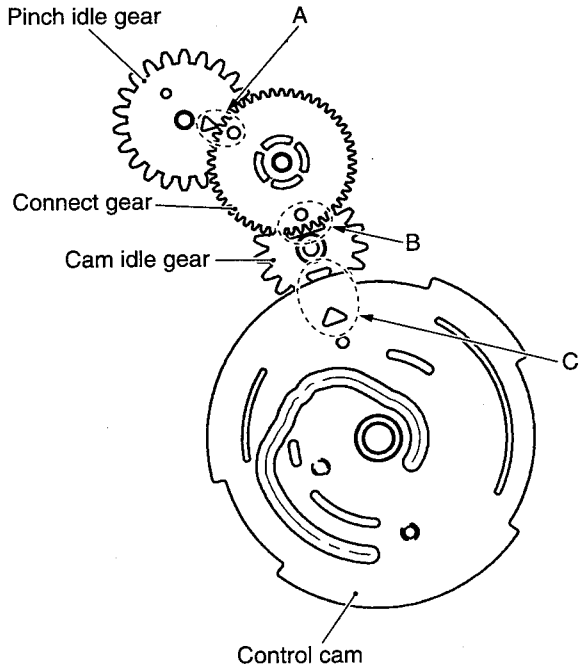
2.7.18 Rubber tire replacement

1	Removal of supply rubber tire	 **Fig. 2-7-68**	1. Remove slit washer A then remove supply tension band B (see Fig. 2-7-68).  **Fig. 2-7-69** 2. Remove supply rubber tire C from the supply reel disk D (see Fig. 2-7-69).
2	Removal of take-up rubber tire	 **Fig. 2-7-70**	3. Remove slit washer E then remove take-up tension band F (see Fig. 2-7-70). 4. Remove take-up rubber tire G from the take-up reel disk H (see Fig. 2-7-71).  **Fig. 2-7-71**
3	Attaching supply rubber tire		1. Attach by reversing the removal procedure.
4	Attaching take-up rubber tire		2. Attach by reversing the removal procedure.

2.8 MECHANISM ASSEMBLING POSITION

Some mechanical parts of this unit do not function correctly unless they are attached with the specified positioning after replacement. The position of the mechanism that makes possible the attachment or checks of the positioning of these parts is referred to as the assembling position. The unit has been designed so that the markings on the gears are aligned correctly when the mechanism is in this position. The methods for placing the mechanism in the assembling position include "placing gears by turning them manually as shown in Fig. 2.8.1 ", and so on. This section describes the attaching positions of the gears when the mechanism is in the assembling position.

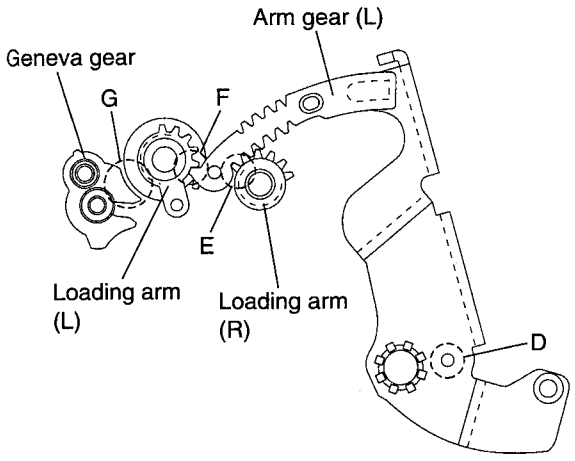
2.8.1 Pinch idle gear, connect gear, cam idle gear



A : Align the △ marking on the pinch idle gear and o marking on the connect gear.
B : Align the larger △ marking on the cam idle gear with the o marking on the connect gear.
C : Align the smaller △ marking on the cam idle gear with the △ marking on the control cam.

Fig. 2-8-1 Gear Positioning 1 (Bottom Panel Side)

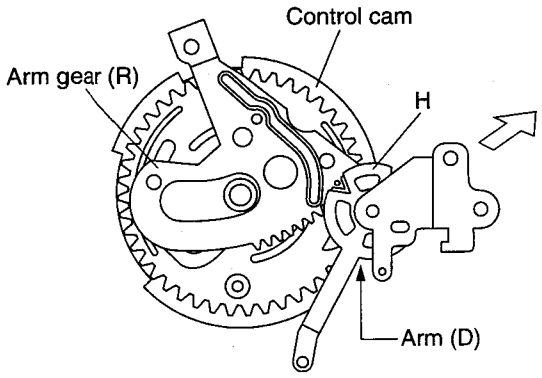
2.8.2 Arm gear (L), loading arms (L) (R), Geneva gear



D : The hole on the arm gear (L) should be aligned with the hole on the part below it when viewed from below.
E : Align the gear end of the loading arm (R) with the end of the groove on the arm gear (L).
F : Engage the gear end of the loading arm (L) with the end of the arm gear (L) as shown in the diagram.
G : Align the R section of the Geneva gear with the loading arm (L).

Fig. 2-8-2 Gear Positioning 2 (Perspective View from Above)

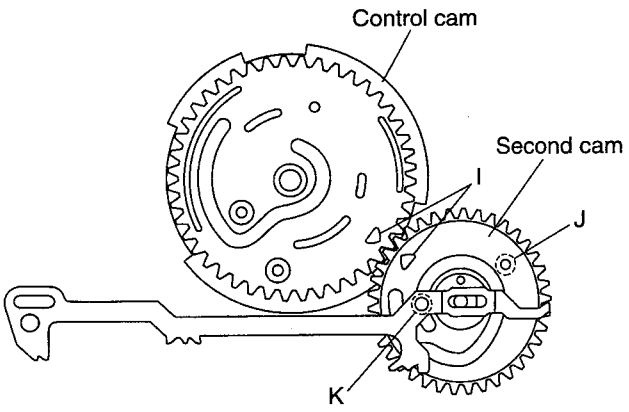
2.8.3 Arm gear (R), arm (D)



H : Align the hole on the arm gear (R) with the notch on the arm (D).The bracket of the arm (D) should be pushed in the direction of the arrow before securing the screw.

Fig. 2-8-3 Gear Positioning 3 (Perspective View from Above)

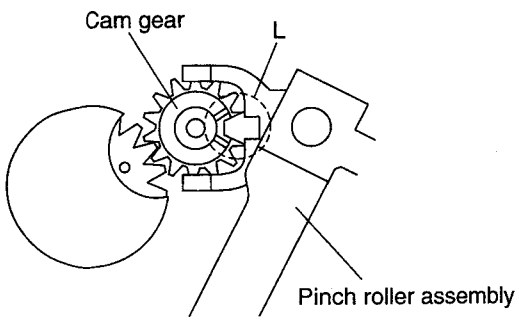
2.8.4 Second cam, direction plate



I : Align the △ markings on the control cam and second cam.
J : The holes on the second cam and the main deck should be aligned.
K : Insert the stud of the direction plate into the groove on the inner side of the second gear.

Fig. 2-8-4 Gear Positioning 4 (Perspective View from Above)

2.8.5 Pinch roller assembly, cam bracket



L : Orient the notch on the cam gear toward the right.
Insert the stud of the pinch roller assembly into the notch on the cam gear.

Fig. 2-8-5 Gear Positioning 5 (Top Side View)

No.	Item	Measuring instrument & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure

2.9 TENSION AND TORQUE ADJUSTMENTS

The rotation torque of the reel motor can be adjusted in the DIAG mode by using the Group 7 adjustment menus.
To protect the cassette torque meter, the tape is transported by the capstan motor drive during the torque adjustment operations, even when the FF/REW button is pressed.

1	Unloading torque adjustment	Cassette torque meter PUJ42881B	DIAG mode "61 : .-- --"	◎ Cassette torque meter: Supply side, indicated value ① "OPERATE" + "FF" : Torque Up "OPERATE" + "REW" : Torque Down ☆ 0.015 N·m (150 gf·cm ± 120 gf·cm)	1. Execute DIAG mode "61 : .-- --" (see the section 2.2.5). 2. Install the cassette torque meter. 3. Press the REW button. (Rotates the supply reel at the unloading torque.) 4. While holding the OPERATE button depressed, press the FF or REW button to adjust the supply torque within the specified range. 5. Press the DATA SET button. The adjusted data is stored in the memory and "61 :Ed.00 xx" is displayed (where "xx" shows the adjusted data).
2	Reverse torque adjustment	Cassette torque meter PUJ42881B	DIAG mode "5F: .-- --"	◎ Cassette torque meter: Supply side, indicated value ① "OPERATE" + "FF": Torque Up "OPERATE" +"REW" : Torque Down ☆ 0.01 N·m (110 gf·cm ± 20 g-cm) ◎ Cassette torque meter: Take-up side, indicated value ① Retaining screw of the take-up tension band ☆ 0.0035 N·m (36 +/-5 gf·cm)	1. Execute DIAG mode "5F: .-- --" (see the section 2.2.5). 2. Install the cassette torque meter. 3. Press the REW button. (Initiates the search reverse x 1 mode.) 4. While holding the OPERATE button depressed, press the FF or REW button to adjust the supply torque within the specified range. 5. Press the DATA SET button. The adjusted data is stored in the memory and "5F :Ed.00 xx" is displayed (where "xx" shows the adjusted data). 6. Check that the take-up reel disk torque of the cassette torque motor is at the adjustment level. 7. If the value is not within the adjustment level range, remove the cassette torque meter and adjust the installation angle of the take-up tension band (see Fig. 2-9-1). 8. Install the cassette torque meter again and press the REW button. 9. Repeat steps 6 to 8 above to adjust within the correct adjustment range. 10. Press the RESET button to terminate the adjustment.

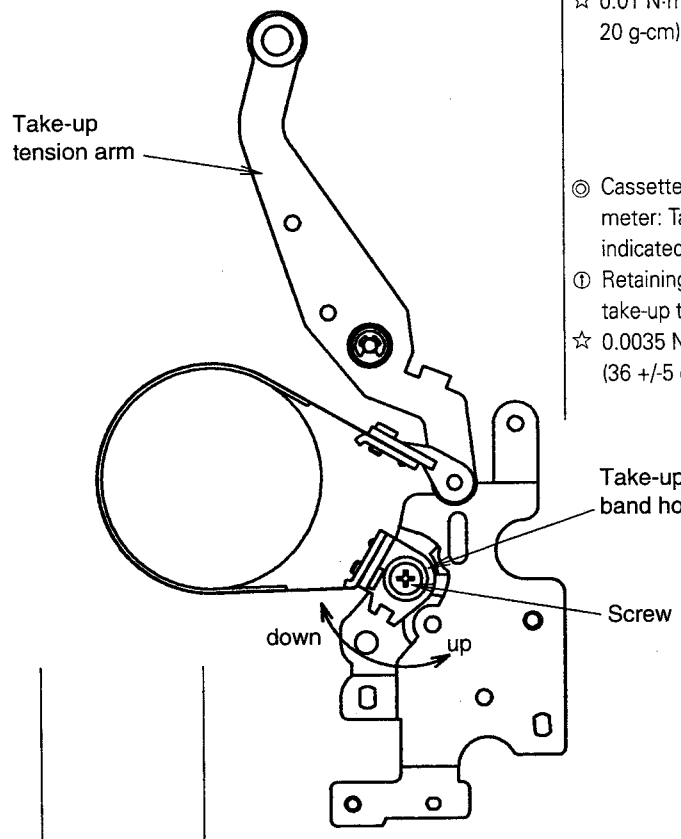


Fig. 2-9-1

No.	Item	Measuring instrument & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
3	Play torque adjustment	Cassette torque meter PUJ42881	DIAG mode "62: .-- --"	◎ Cassette torque meter: Take-up side, indicated value ① "OPERATE" + "FF": Torque Up "OPERATE" +"REW": Torque Down ☆ 0.01 N·m (100 gf·cm ± 20 gf·cm) ◎ Cassette torque meter: supply side, indicated value ① Retaining screw of the supply tension band ☆ 0.0036 N·m (37 ±4 gf·cm)	1. Execute DIAG mode "62: .-- --" (see the section 2.2.5). 2. Install the cassette torque meter. 3. Press the PLAY button. (Rotates the take-up reel at the forward transport torque.) 4. While holding the OPERATE button depressed, press the FF or REW button to adjust the take-up torque within the specified range. 5. Press the DATA SET button. The adjusted data is stored in the memory and "62:Ed.00 xx" is displayed (where "xx" shows the adjusted data). 6. Check that the supply reel disk torque of the cassette torque meter is at the adjustment level. 7. If the value is not within the adjustment level range, remove the cassette torque meter and adjust the installation angle of the supply tension band (see Fig. 2-9-2). 8. Install the cassette torque meter again and press the PLAY button. 9. Repeat steps 6 to 8 above to adjust within the correct adjustment range. 10. Press the RESET button to terminate the adjustment.

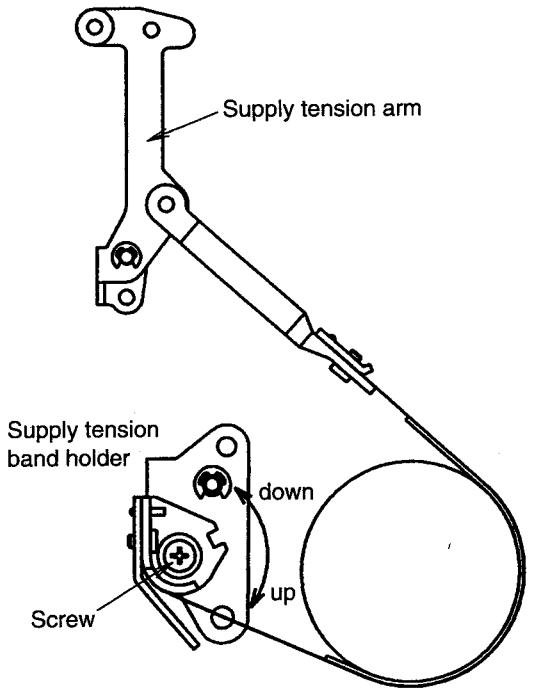


Fig. 2-9-2

No.	Item	Measuring instrument & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure

2.10 A/C HEAD ADJUSTMENTS

As the A/C head adjustments affect other adjustments in some degree, the adjustments should be repeated until all of the standards are met simultaneously.

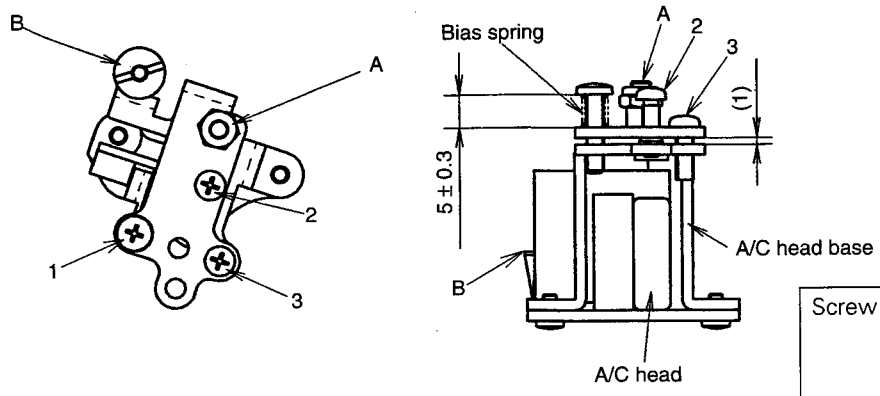


Fig. 2.10.1 A/C Head Adjustment Screws

Screw	1	Fixed at the position shown in diagram.
	2	For use in the tilt adjustment.
	3	For use in the azimuth adjustment.
Nut	A	For use in the height adjustment.
	B	For use in the X-value adjustment.

1	A/C head tilt adjustment	Parallelism check plate PGJ04035 or PUJ50204 or PGJ04039	–	◎ A/C head tilt ① Screw 2 ☆ Should be parallel with the A/C head guide roller.	1. Apply the flat-plane surface of the parallel check plate onto the A/C head guide roller. 2. While maintaining the above condition, bring the parallel check plate slowly in contact with the A/C head. 3. Ensure that there is no clearance between the A/C head and the plate at both the upper and lower edges. 4. If clearance is observed, adjust the screw 2 to remove clearance.

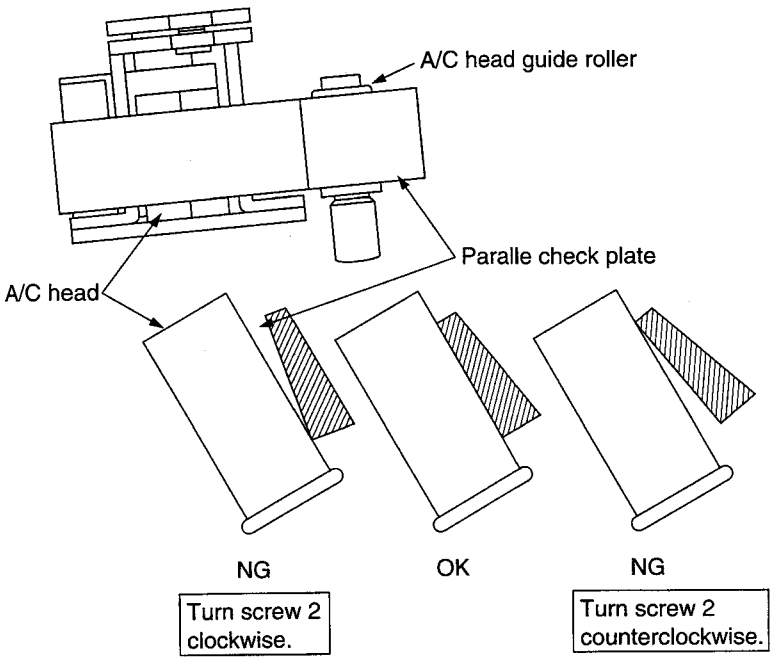


Fig. 2-10-2 A/C Head Inclination Adjustment

No.	Item	Measuring instrument & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
2	A/C head height Pre-adjustment	Digital S Tape	PLAY mode	◎ A/C head height ① Nut A ☆ The CTL head should be partially visible, for about 0.5 mm, below the lower edge of the tape.	1. Initiate PLAY mode. 2. Check that the tape is running along the lower flange of the A/C head guide roller. If tape wrinkle is observed, adjust the roller height to remove it. 3. Adjust nut A to the adjustment level.

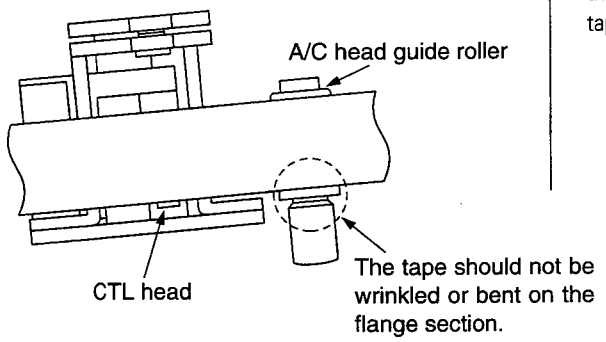


Fig. 2-10-3 A/C Head Height Preliminary Setting Position

3	A/C head azimuth adjustment	Oscilloscope, alignment tape, MHP: for U-ver. MHPE: for E-ver.	PLAY mode, DIAG mode "58: .-- --"	◎ AUDIO OUT jacks ① Screw 3 ☆ CH1 and CH2 should be in-phase and their levels should be maximum.	1. Execute DIAG mode "58: .-- --" (see subsection 2.2.5). 2. Initiate PLAY mode. 3. Check that the tape is running along the lower flange of the A/C head guide roller. If tape wrinkle is observed, adjust the roller height to remove it. 4. Adjust the screw 3 so that the CH1 and CH2 audio output levels are at the level. 5. Check the A/C head tilt. If the angle is erroneous, re-adjust it and adjust the azimuth again (see sub section 2.10.1).

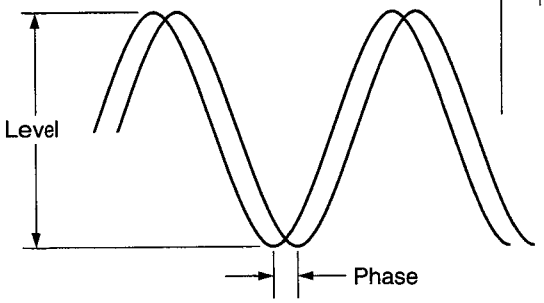


Fig. 2-10-4 Audio Output Waveforms

4	A/C head height adjustment	Oscilloscope alignment tape MHP: for U-ver. MHPE: for E-ver.	PLAY mode, DIAG mode "58: .-- --"	◎ AUDIO OUT jacks ① Nut A ☆ Adjust the CH1 and CH2 level to minimize first, then turn the nut A to the clockwise (45 degree).	1. Execute DIAG mode "58: .-- --" (see subsection 2.2.5). 2. Initiate PLAY mode. 3. Adjust nut A to minimize the CH1 and CH2 audio output levels. (see Fig. 2-10-4) 4. Turn the nut A to the clockwise (45 degree).

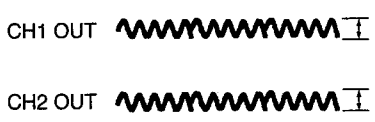


Fig. 2-10-5 Audio Output Waveforms

No.	Item	Measuring instrument & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
5	X-value adjustment	Oscilloscope (V-rate) alignment tape (MSHP-X)	PLAY mode DIAG mode "67: .-- --"	◎ TP403: RF2 TP401: GND TP406: FRP [POWER SW} ① Nut B ☆ The RF waveform should be maximum and the phases at the FRP and the non-recorded section should be as shown below.	1. Remove the connector box (see subsection 1.1.4). 2. Execute DIAG mode "67: .-- --" (see subsection 2.2.5). 3. Initiate PLAY mode. 4. Adjust nut B for the adjustment level.

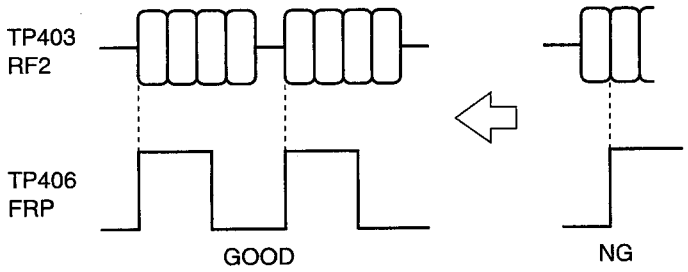


Fig. 2-10-6 Audio Output Waveforms

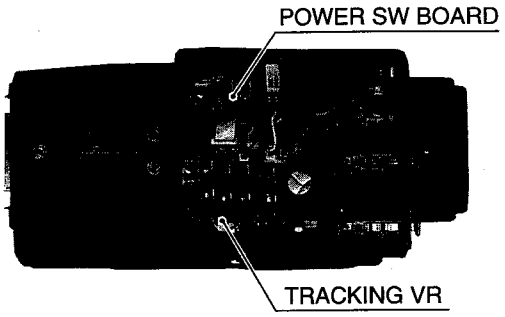


Fig. 2-10-7

2.11 ADJUSTMENT OF INTERCHANGEABILITY

[CAUTION]

- Proceed to the following adjustment after having completed subsection "3.5 SERVO SYSTEM ADJUSTMENT" and subsection "2.9 REEL SERVO CIRCUIT ADJUSTMENT".

2.11.1 Interchange ability adjustment flowchart

Fig. 2-11-1 shows the flowchart of the interchange ability adjustment.

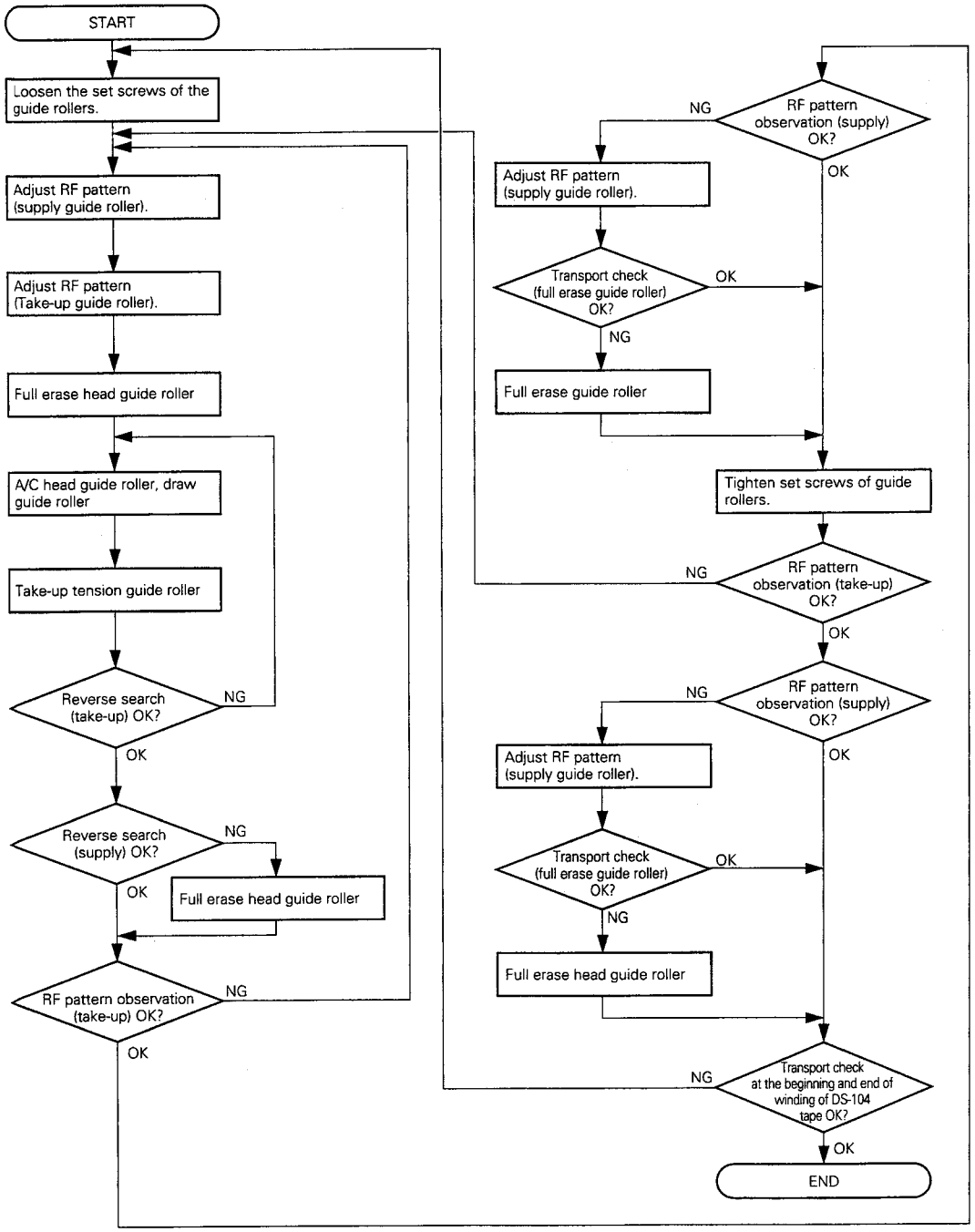


Fig. 2-11-1 Compatibility Adjustment Flowchart

2.11.2 Check of tape transport system

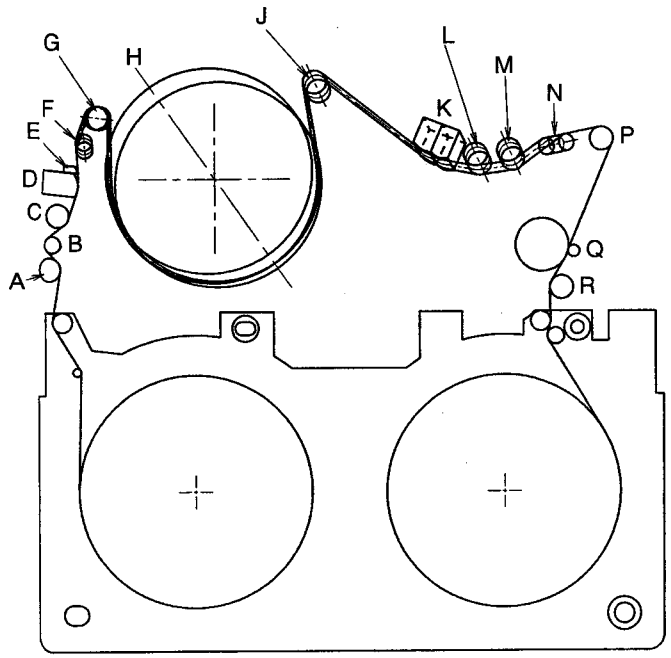


Fig. 2-12-2

Symbol	Name	Restriction
A	1st guide roller	Non-regulation
B	Supply tension pole	Non-regulation
C	Full erase head guide roller	Tape's lower edge regulation
D	Full erase head	Non-regulation
E	Tape scraper	Non-regulation
F	Supply slant pole	Non-regulation
G	Supply guide roller	Tape's upper edge regulation
H	Drum assembly	Tape's lower edge regulation
J	Take-up guide roller	Tape's upper edge regulation
K	A/C head assembly	Non-regulation
L	A/C head guide roller	Tape's lower edge regulation
M	Middle guide roller	Non-regulation
N	Take-up slant pole	Non-regulation
P	Draw guide roller	Tape's upper edge regulation
Q	Capstan	Non-regulation
R	Take-up tension roller	Non-regulation

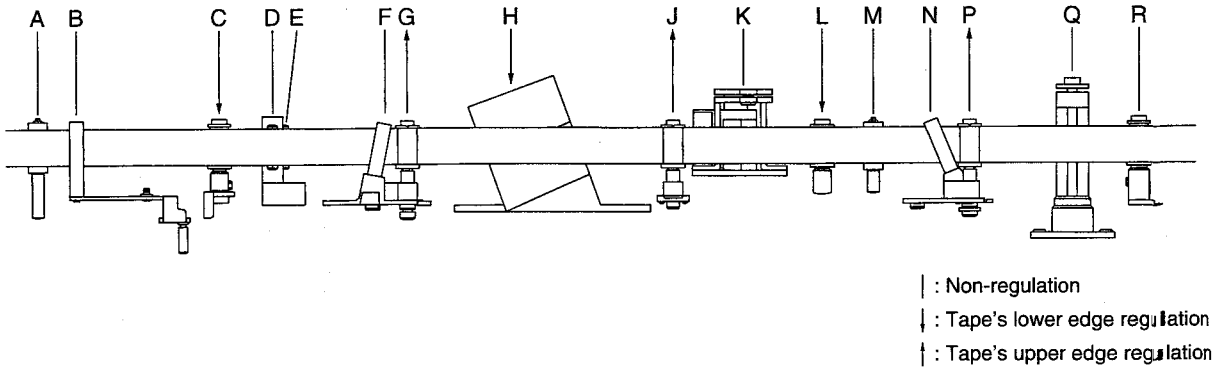


Fig. 2-11-3 View from Cassette Tape Insertion Side

No.	Item	Measuring instrument & Input signals	Mode	Measuring point (◎) Adjustment parts (Ⓣ) Adjustment level (☆)	Adjustment procedure

2.11.3 Interchangeability adjustment

1	Preparation				1. Loosen the set screws of the guide rollers. Loosen each screw fully then tighten slightly to a tightness which enables adjustment. Do not loosen the screws too much, otherwise the adjustment point may be altered when it is tightened after adjustment. 2. Switch auto tracking off with DIAG menu (4:RE tr) 3. Remove the bottom cover.
2	Supply guide roller and take-up guide roller adjustments	Oscilloscope (V-rate, 10:1) Ext. TRIG.: HID [POWER SW] Alignment tape (MSHP)	PLAY	◎ RF1 [POWER SW] ◎ GND [POWER SW] Ⓣ TRACKING (VR101) [CONNECTOR] Ⓣ Supply guide roller Take-up guide roller ☆ The waveform should be flat.	1. Play alignment tape MSHP. 2. Connect the test point (RF1) of the POWER SW board to the oscilloscope. 3. While observing the RF waveform, adjust the TRACKING potentiometer of the CONNECTOR board. 4. While observing the waveforms, rotate the supply guide roller and take-up guide roller so that the respective waveforms are flat (see Fig. 2-11-5 and 6).
				Ⓣ TRACKING (VR101) [CONNECTOR] ☆ 6 dB (1/2) lower level. Ⓣ Supply guide roller Ⓣ Take-up guide roller ☆ The waveform should be flat.	5. When the waveforms become flat, rotate the TRACKING potentiometer to maximize the peak values. 6. Rotate the TRACKING potentiometer in a clockwise direction when viewed from the top (in a direction of arrow in Fig. 2-11-4), so that the levels are decreased by 6 dB from the peak values. 7. Fine adjust the supply guide roller and take-up guide roller heights again so that the respective waveforms are flat.

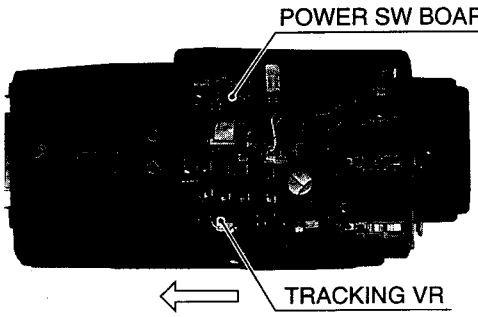


Fig. 2-11-4

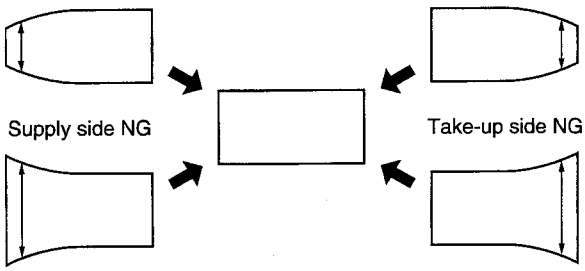


Fig. 2-11-5

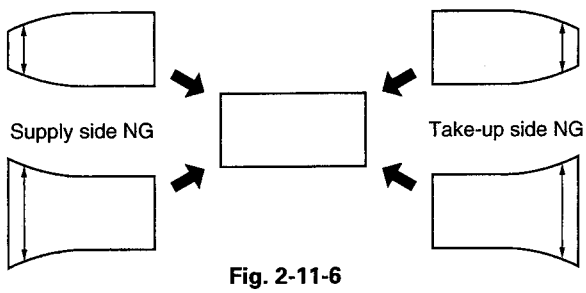


Fig. 2-11-6

No.	Item	Measuring instrument & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
		Digital S tape (DS104)	PLAY	① Full erase head guide roller ☆ Tape's lower edge regulation	8. Adjust the full erase head guide roller so that tape's lower edge regulation is applied. **Special Technique** **Tape's lower edge regulation:** Move the guide roller up until the tape contacts the lower flange of the guide roller and starts to produce wrinkles, then move the guide roller slowly down until the wrinkles disappear.
				① A/C head guide roller ☆ Tape's lower edge regulation	9. Adjust the A/C head guide roller so that tape's lower edge regulation is applied (see Fig. 2-11-7 and "Special Technique - tape's lower edge regulation").
3	A/C head height preliminary adjustment	Digital S tape (DS104)	PLAY	① A/C head ☆ 0.5 mm	10. While visually observing the A/C head, adjust it so that the gap of the control head is visible by 0.5 mm below the lower edge of tape.

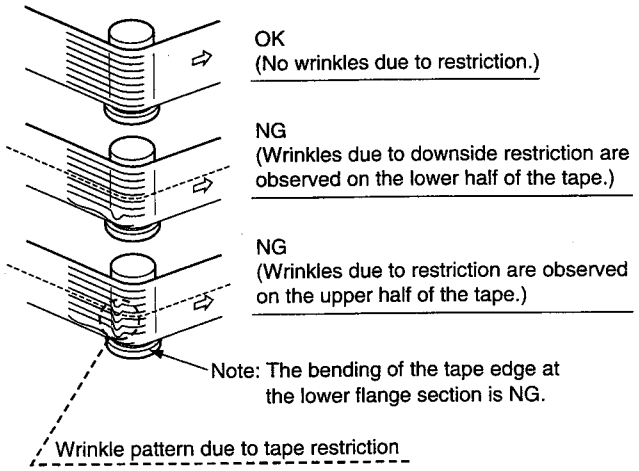


Fig. 2-11-7

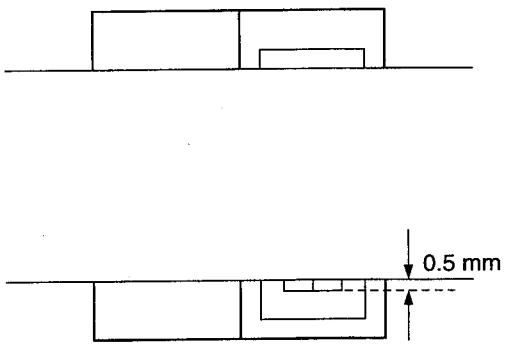


Fig. 2-11-8

No.	Item	Measuring instrument & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
4	Draw guide roller adjustment	Digital S tape (DS104)	PLAY	① Draw guide roller ☆ Tape's upper edge regulation	11. Adjust the draw guide roller so that tape's upper edge regulation is applied. **Special Technique** **Tape's upper edge regulation:** Move the guide roller down until the tape contacts the upper flange of the guide roller and starts to produce wrinkles, then move the guide roller slowly up until the wrinkles disappears
				① A/C head guide roller ☆ Downside restriction	12. Check that tape's lower edge regulation is applied to the A/C head guide roller. If there is no tape's lower edge regulation, adjust the A/C head guide roller height (step 9) then repeat steps 11 and 12.
5	Take-up tension roller adjustment	Digital S tape (DS104)	PLAY	◎ Take-up tension roller ① Take-up tension roller ☆ No wrinkles	13. Adjust the take-up tension roller so that the tape is located between its upper and lower flanges and no wrinkles are observed on the tape.

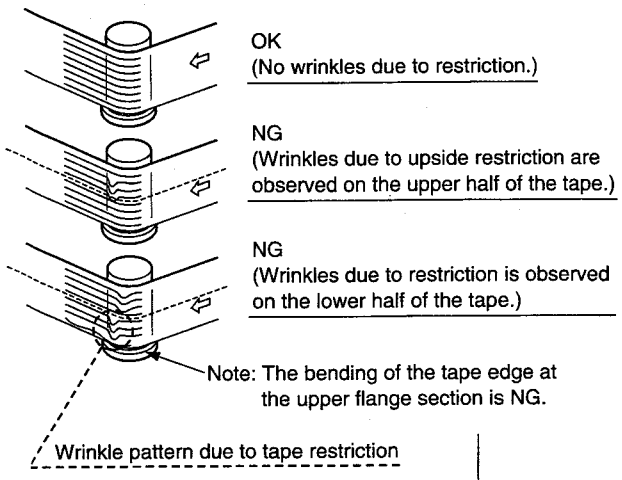


Fig. 2-11-9

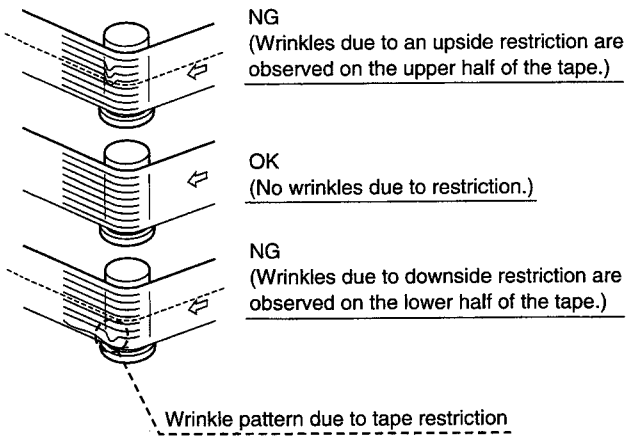


Fig. 2-11-10

No.	Item	Measuring instrument & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
6	Check	Digital S tape (DS104)	Search, REV	◎ RF1[POWER SW] ◎ Between pinch roller and draw guide roller ① Draw guide roller ☆ No twist and no wrinkles ◎ Full erase head guide roller ① Full eerase head guide roller ☆ No twist and no wrinklos	14. Initiate reverse search mode. 15. Check that the tape is not twisted between the pinch roller and the draw guide roller and that it is not wrinkled by the A/C head guide roller. If tape twist or wrinkles are observed, fine adjust the draw guide roller height then check the adjustments in steps 11 to 13. 16. Check that the tape is not wrinkled by the full erase head guide roller. If tape wrinkles are observed, fine adjust the full erase head guide roller height. 17. Initiate PLAY mode.
		Alignment tape MSHP	PLAY	◎ RF1 [power sw]	18. Observe the RF waveform and check that it is flat. 19. Check that the positive going of the RF waveform is normal between loading and play and between reverse search and play. If it is abnormal, restart adjustments from step 7. 20. Tighten the set screws of the guide rollers. 21. Perform the same checking as for steps 18 and 19.
		Digital S tape (DS104)			22. Using the digital S tape (DS104), initiate play at the beginning of winding, initiate reverse search at the end of winding, and check that the tape is not twisted or wrinkled by the guide rollers. If tape twist or wrinkles are observed, review the adjustments from step 1 and repeat the required adjustments.

No.	Item	Measuring instrument & Input signals	Mode	Measuring point (◎) Adjustment parts (Ⓘ) Adjustment level (☆)	Adjustment procedure

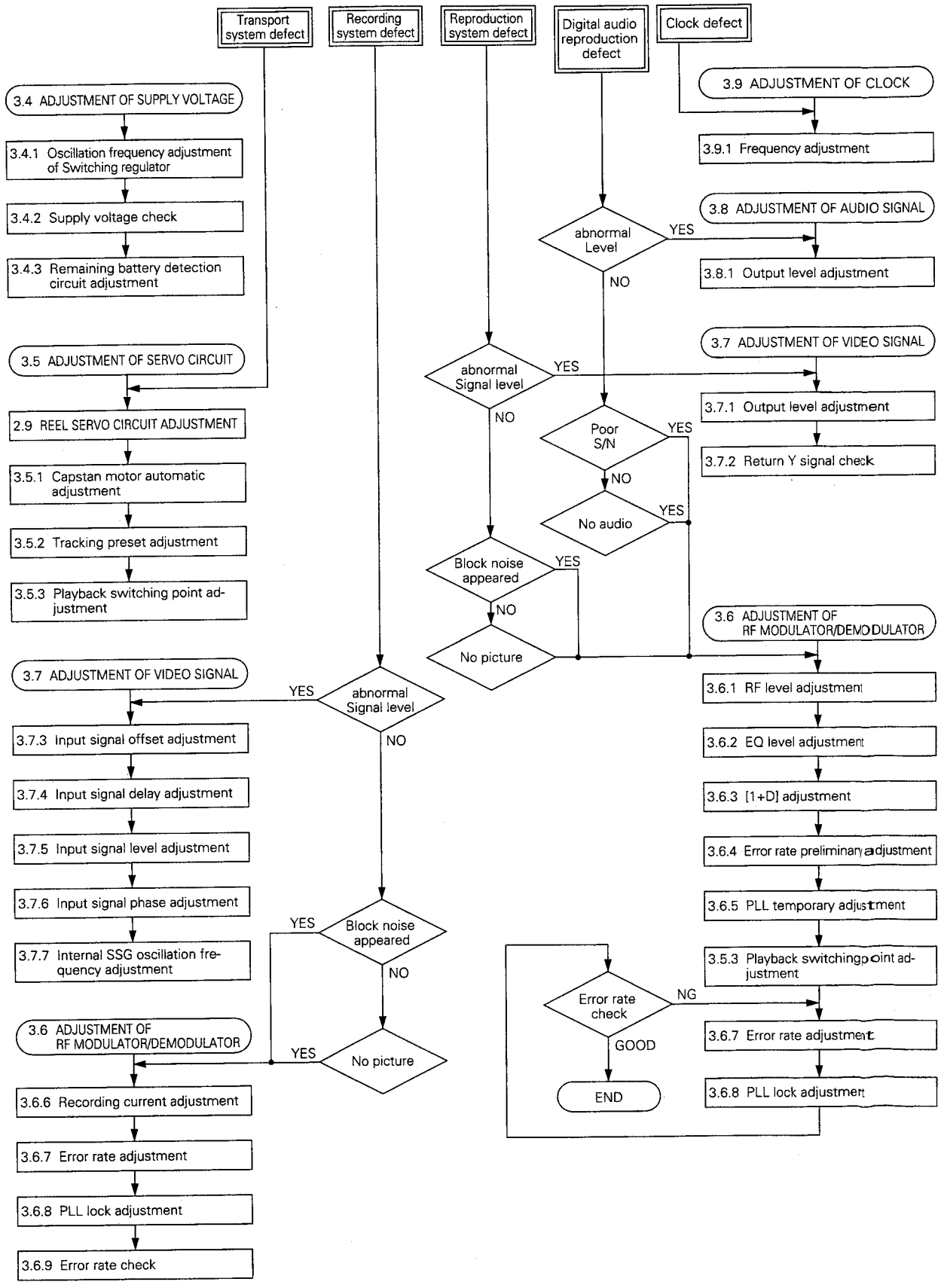
2.12 CHECK OF LINEARITY

[CAUTION] • Proceed to the linearity check after having completed the mechanism adjustments and the tracking preset adjustment.

1	Connection	PC A/D board: KLJ0089 RS-232C connection cable: KLJ0123-2 Alignment tape "MSHP"	DIAG mode	◎ TRM [POWER SW] ◎ HID [POWER SW]	1. Connect the cables (KLJ0123-2) provided with the A/D board (KLJ0089) to the test points TRM (signal) and HID (trigger) on the POWER SW board. 2. For the connection of other cables, refer to the instruction manual provided with the linearity check PC. 3. Boot the PC and set the BR-D40 to the DIAG mode. 4. Load alignment tape "MSHP".
2	Check			☆ No more than 5 μm	5. Execute the PVP.bat file (TMS Player) on the PC. For the operating instructions, refer to the instruction manual provided with the A/D board. 6. Check that the measured linearity value is no more than 5 micro. If it is more than 5 μm, perform the subsection "2.11 ADJUSTMENT OF INTERCHANGEABILITY" again, and then measure the linearity again.

SECTION 3
ELECTRICAL ADJUSTMENTS

3.1 ELECTRICAL ADJUSTMENT FLOWCHART



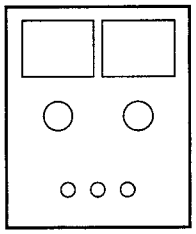
3.2 REQUIRED MEASURING INSTRUMENTS FOR ADJUSTMENTS, STANDARD SETUP

3.2.1 Required measuring instruments for adjustments

Instrument	Condition	Instrument	Condition
Oscilloscope	Capable of measuring 100 MHz or higher bands and calibrated.	Vectorscope	Must be calibrated, and capable of measuring 0-setup signals (see the subsection "3.4").
Oscilloscope	Capable of measuring 300 MHz or higher bands and calibrated. (This oscilloscope is used in Section 3.6, "RF Modulator/ Demodulator System Adjustment".)	Audio tester	Must be calibrated.
		Spectrum analyzer	Must be calibrated. (This is not required when the BR-D80 or BR-D85 is available.)
Frequency counter	Readable in 8 or more digits. Constancy of 0.1 ppm/1 x 10^{-7} or more at 0°C to 40°C.		
Digital voltmeter	Input impedance of 10 MΩ ohm or more, and calibrated.		

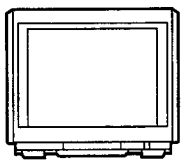
3.2.2 Required instruments for adjustments

1 12 V DC power supply

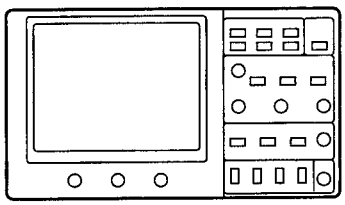


DC regulated power supply (output current 4 A or more)

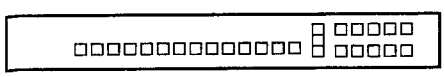
2 Video monitor TV



3 Waveform monitor (WFM)

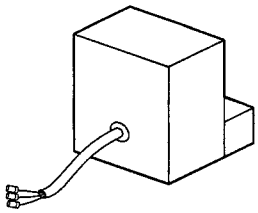


2 Analog component video signal generator



Capable of generating the analog component signals mentioned in subsection "3.3.3 Component signals required for video system adjustments".
< Example: TSG-300 (Textronix) or equivalent >

5 Video signal input tool: KLJ0126



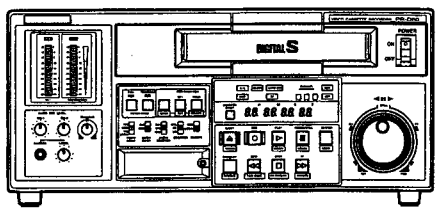
6 Alignment tapes

MSHP-X: For use in tracking preset adjustment.
MSHV-1: For use in RF modulator/demodulator system adjustments.
MS-1: For use in video system adjustments (NTSC).
MS-2: For use in video system adjustments (PAL).

7 Digital S tape

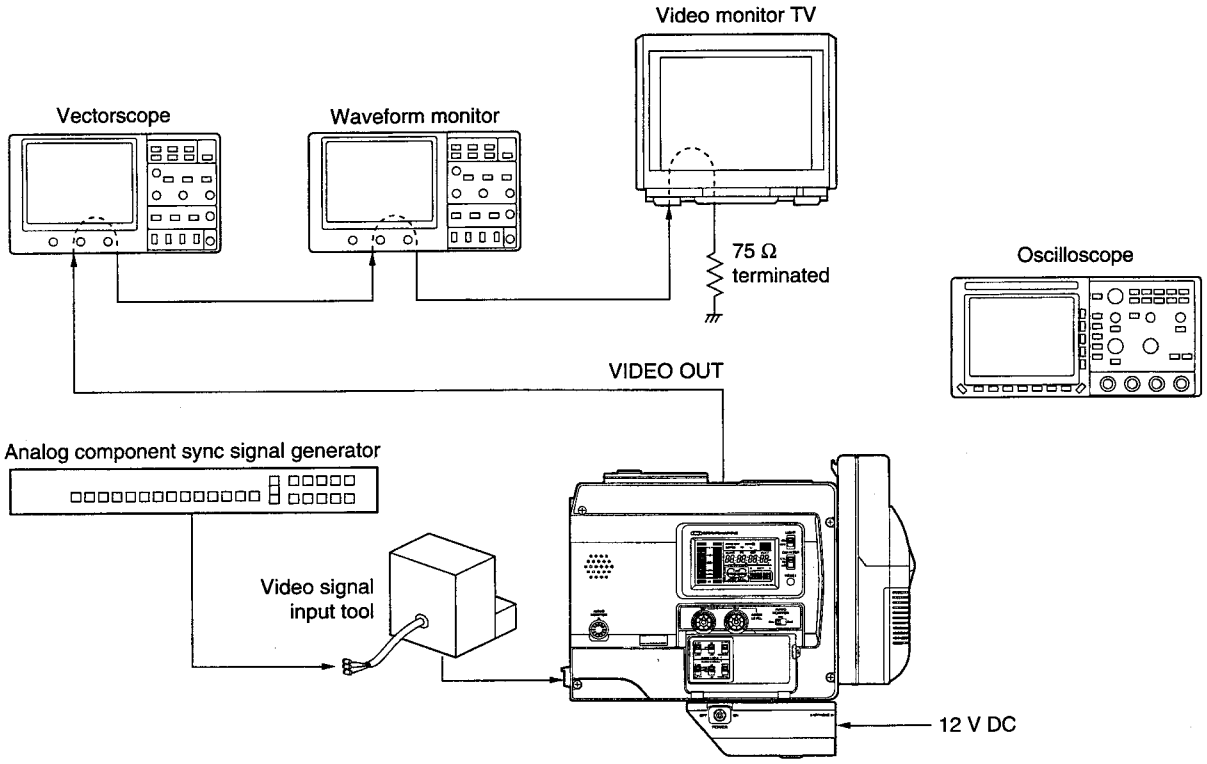
For use in self-recording/playback. (DS-104)

8 BR-D80 or BR-D85



(A spectrum analyzer is required if the above mentioned model is not available.)

3.2.3 Standard setup



3.2.4 DIAG mode selection procedure

1) While holding the ADVANCE button depressed, press and hold the MENU button for more than 3 seconds.
2) Press the GROUP button to select group 7 (from "58: " to "86: ").
3) Press the ITEM button to select the specified menu.
4) Press the SELECT button to execute the item.
   See the subsection "1.3.2" for details.

3.3 BEFORE PROCEEDING TO ADJUSTMENT

3.3.1 Precautions

Before proceeding to any electrical adjustment, it is required to confirm without fail that the objective item (function or part) is out of order. Moreover, for the item that needs exact mechanical adjustment prior to electrical adjustment, make sure that it is mechanically normal first and then proceed to electrical adjustment.

Start electrical adjustment at least 10 minutes after the VCR has been turned on.
Regarding an oscilloscope to be used for measurement, use the 10:1 probe.

3.3.2 Alignment tape specifications

MSHP-X

Video Signal	Audio Signal	Time (min.)	Applications
Color bar (1 track per frame does not contain video.)	–	50	X-value adjustment and tracking preset adjustment.

MSHV-1

Video Signal	Audio Signal	Time (min.)	Applications
Motion picture	Music suund	50	• Tracking preset adjustment • Playback switching point adjustment • RF modulator/demodulator system adjustments

MS-1 [NTSC]

No.	Video Signal	Audio Signal	Time (min.)	Applications
1	Color bar	1 kHz/–20dBFs	10	• Video system adjustments
2	Pulse & bar		5	
3	Multi-burst		5	• Audio system adjustments
4	Bow-tie		5	

MS-2 [PAL]

No.	Video Signal	Audio Signal	Time (min.)	Applications
1	Motion picture	Music sound	15	
2	Colour bar		10	• Video system adjustments
3	Pulse & bar	1 kHz/–20dBFs	5	
4	Multi-burst		5	• Audio system adjustments
5	Bow-tie		5	

3.3.4 Note on the vectorscope with the 0-setup video signal measuring capability (NTSC Only)

The component signal to be applied for the electrical adjustments should be a signals with setup. However, the VBS output from the BR-D40 does not include the setup component because it has a simplified output. Therefore, it is required that the vectorscope used in the measurement is capable of measuring signals without setup. The following two types of vectorscope can be used in the measurement.

1. A vectorscope which uses a switch for setup switching.
2. A vectorscope which can vary the gain on the CRT screen.

Each type of vectorscope should be used properly according to the intended usage. For details, refer to the instruction manual of the instrument.

3.4.1 Vectorscope equipped with a switch

Set the switch to the 0 setup position before proceeding to the measurement.

3.4.2 Vectorscope with variable CRT gain

When using this type of vectorscope, notice the burst display on the CRT. It can be used when the burst section is as shown in Figure 3-4-1.

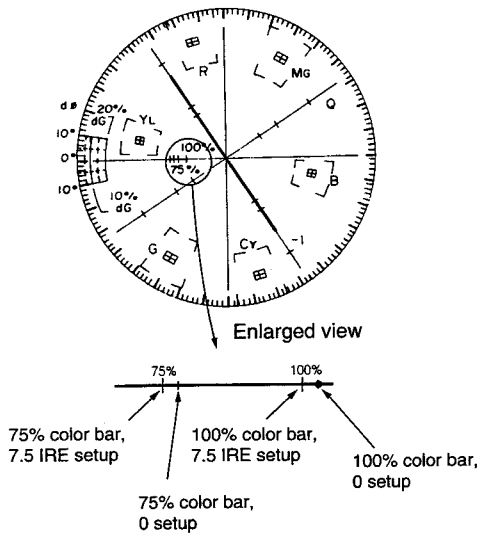


Fig. 3-4-1

(1) First, ensure that the burst level is 286 mVp-p using an oscilloscope.
(2) Apply the video signal to the vectorscope and terminate with 75Ω.
(3) Check that the burst dot is located at the 75% color bar, 7.5 IRE setup position.

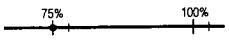


Fig. 3-4-2

(4) Adjust the vectorscope's gain so that the burst dot is aligned with the small indication point to the right of the 100% position.
(This is because this adjustment for a 75/7.5/75/7.5 color bar signal.)

Fig. 3-4-3

(5) Without changing the conditions above, adjust the gain for all the dots(R,G,B,Mg,Cy,Yl)so that they come inside the points.

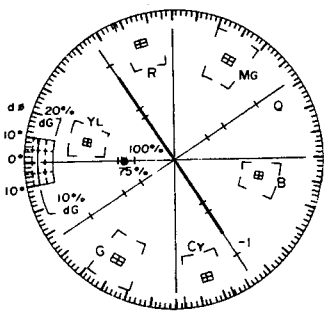
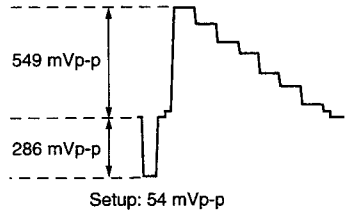
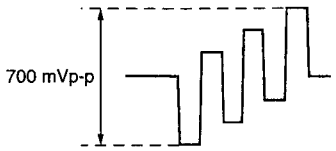
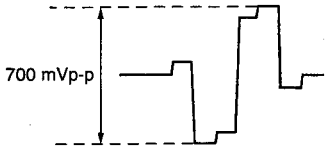
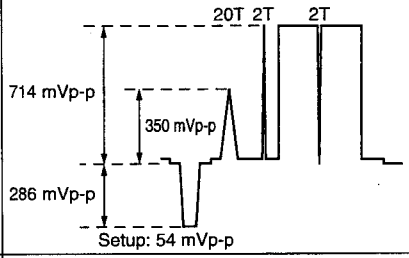
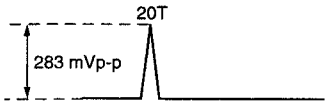
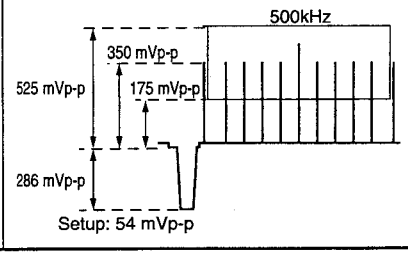
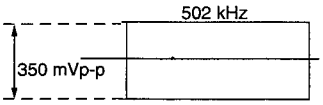
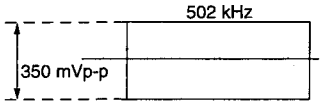
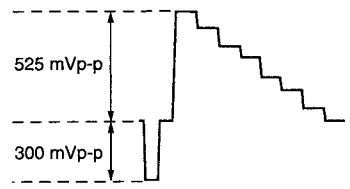
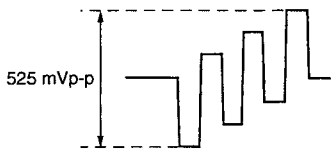
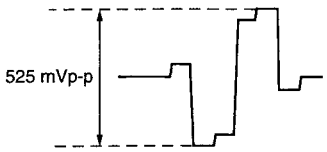
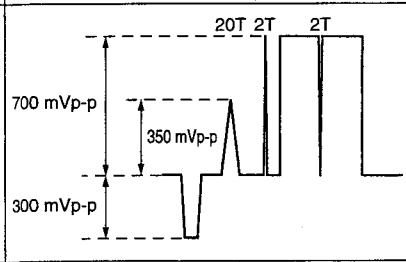
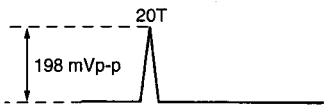
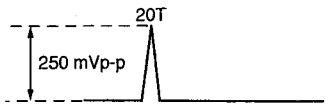
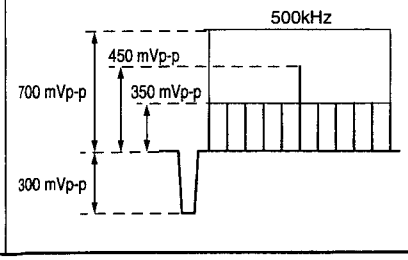
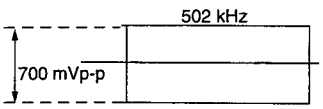
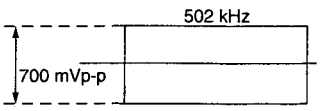


Fig. 3-4-4

3.3.3N Component signals required for video adjustment [NTSC]

	Y signal	B-Y signal	R-Y signal
Color bar signal			
Pulse & bar signal			
Bow-tie signal			

3.3.3P Component signals required for video adjustments [PAL]

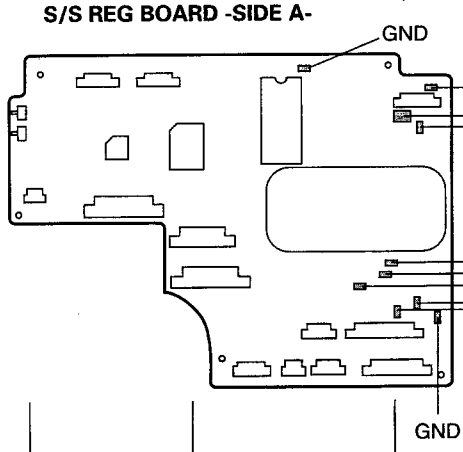
	Y signal	B-Y signal	R-Y signal
Color bar signal			
Pulse & bar signal			
Bow-tie signal			

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure

3.4 ADJUSTMENT OF SUPPLY VOLTAGE

1	Oscillation frequency adjustment of Switching regulator	Frequency counter	STOP	◎ TP501 [S/S REG] ◎ GND TG2 ① (VR501) (S/S REG) ☆ 100kHz	1. Put the VCR in stop mode. 2. Adjust VR to obtain the specified frequency at the measuring point.
2	Supply voltage check	Digital voltmeter	STOP	◎ TP502 [S/S REG] ☆ +9 V ± 0.2 V ◎ TP503 [S/S REG] ☆ +5.9 V ± 0.1 V ◎ TP504 [S/S REG] ☆ −5.9 V ± 0.1 V ◎ TP505 [S/S REG] ☆ +5 V ± 0.1 V ◎ TP507 [S/S REG] ☆ +3.3 V ± 0.1 V ◎ TP506 [S/S REG] ☆ +48 V ± 2 V	1. After adjustment of subsection "3.4.1 oscillation frequency adjustment of switch regulator", confirm that the VCR is in stop mode. 2. Confirm that the voltage at each measuring points meet the specified level.
3	Remaining battery detection circuit adjustment (automatic adjustment)	+12 V ± 0.03 V ↓ DC INPUT	No cassette, DIAG mode (86: .-- --)	Automatic adjustment	1. Input +12 V +/-0.03 V (4 A or more) to the DC INPUT connector. 2. Set the VCR to the no cassette condition. 3. Set DIAG mode "86: .-- --" (see the subsection "3.2.4"). 4. Press the SELECT button to start automatic adjustment. 5. Check that the counter displays "86 Ed 00 xx". 6. Turn power OFF to quit the DIAG mode.

S/S REG BOARD -SIDE A-

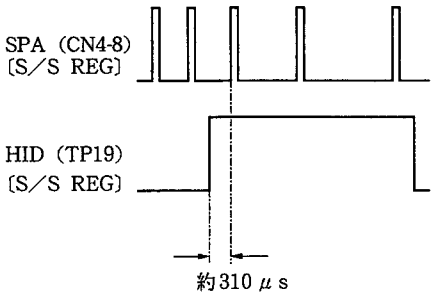


No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure

3.5 ADJUSTMENT OF SERVO CIRCUIT

1	Capstan motor automatic adjustment		No cassette DIAG mode (5d: .-- --)	Automatic adjustment ☆ Adjust the capstan FG (TP13 and TP14 on the [S/S REG]) duty to the 50% in automaticaly. ☆ CPU measures FG level (Pin 74 of IC14 on the [S/S REG]) just before the capstan motor is stopped.	1. Set the VCR to the non-cassette condition. 2. Set DIAG mode "5d: .-- --" (see the section 3.2.4). 3. Press the SELECT button to start automatic adjustment. The counter displays "5d:P .-- --" during the automatic adjustment. 4. Check that the counter displays "5d:Ed·00 00".
2	Tracking preset adjustment	X value alignment tape "MSHP-X"	PLAY mode, DIAG mode (68: .-- --)	Automatic adjustment ☆ RF ENV (TP15) [S/S REG] envelope should be maximized as a result of the automatic adjustment.	**[CAUTION]** **Proceed to the following adjustment after having completed the X-value adjustment.** 1. Set DIAG mode "68: .-- --" (see the subsection "3.2.4 Item selection procedure"). 2. Load and playback X value alignment tape "MSHP-X". 3. Press the SELECT button to start automatic adjustment. The counter displays "68:P .-- --" during the automatic adjustment. 4. Check that the counter displays "68:Ed·00 00". **[CAUTION]** • **If the automatic adjustment fails, data is not written and the counter display shows "68:Er·00 00". In this case, perform the adjustment again.** • **If the PRESET button is pressed or another mode than PLAY is entered during adjustment, the counter display shows "68:Ab·00 00".** 5. Eject the X value alignment tape. 6. Perform subsection "3.5.3 Playback switching point adjustment".

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
3	Playback switching point adjustment	Alignment tape "MSHV-1"	PLAY mode DIAG mode (64: .-- --)	Automatic adjustment ☆The leading edge of the HID signal should be as shown in the diagram below in automaticaly	**[CAUTION]** **Proceed to the following this adjustment after having completed the sub section "2.10.5 X-value adjustment".** 1. Set DIAG mode " 64: .-- -- " (see the sub-section "3.2.4 Item selection procedure"). 2. Load and playback alignment tape "MSHV-1". 3. Press the SELECT button to start automatic adjustment. The counter displays " 64:P .-- -- " during the automatic adjustment. 4. Check that the counter displays " 64 Ed 00 00 ". **[CAUTION]** • **If the automatic adjustment fails, data is not written and the counter display shows "64:Er·00 00 ". In this case, perform the adjustment again.** • **If the PRESET button is pressed or another mode than PLAY is entered during adjustment, the counter display shows "64:Ab·00 00 ".** 5. Eject the alignment tape. 6. Turn power OFF to quit the DIAG mode.



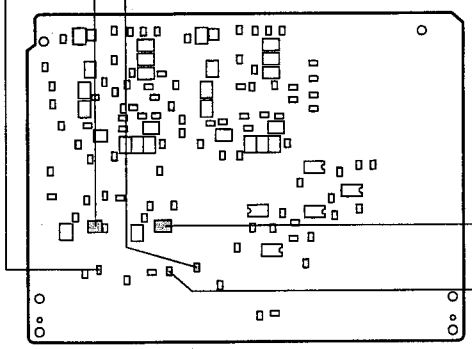
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure

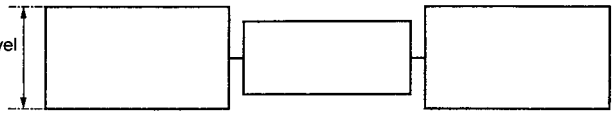
3.6 ADJUSTMENT OF RF MODULATOR/DEMODULATOR

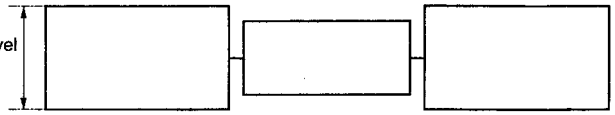
[CAUTION]

- **Switch auto tracking OFF. (DIAG menu " 4:AT tr ")**
- **Before proceeding to the following adjustments, playback the alignment tape "MSHV-1" and adjust the TRACKING potentiometer (in the connector box) so that the amplitude of the RF waveform at TP207 on the RFP (RF Process) board is maximized.**

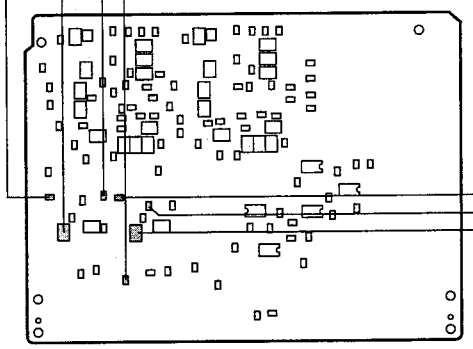
1	RF level adjustment (Leading head)	Oscilloscope (V-rate, 10:1) EXT. TRIG TP512 [RFP] Alignment tape "MSHV-1"	PLAY	◎ TP107 ① VR102 [RFP] ☆ 400 mVp-p	**[CAUTION]** **• Be sure to use an oscilloscope with a measuring band of 300 MHz or more. (The level would be lower if an oscilloscope with a measuring band below 300 MHz is used.)** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** 1. Playback the alignment tape "MSHV-1". 2. Adjust VR to obtain the signal level at the measuring point.
	(Lagging head)			◎ TP207 ① VR202 [RFP] ☆ 400 mVp-p	3. Adjust VR to obtain the signal level at the measuring point.





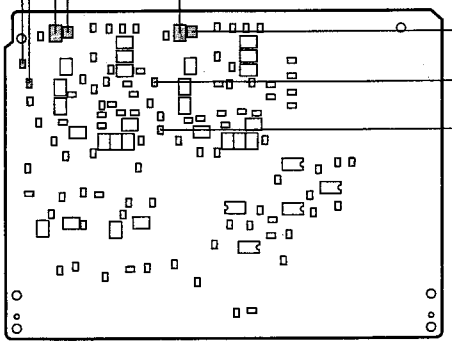


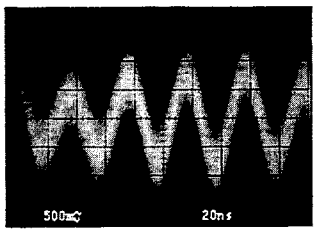
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (ⓘ) Adjustment level (☆)	Adjustment procedure
2	EQ level adjustment (Leading head)	Oscilloscope (V-rate, 10:1) EXT. TRIG TP512 [RFP] Alignment tape "MSHV-1"	PLAY	◎ TP103 ⓘ VR101 [RFP] ☆ 150 mVp-p (Connect the GND of the probe to TP104.)	**[CAUTION]** **• Be sure to use an oscilloscope with a measuring band of 300 MHz or more. (The level would be lower if an oscilloscope with a measuring band below 300 MHz is used.)** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** 1. Playback alignment tape "MSHV-1". 2. Adjust VR to obtain the signal level at the measuring point.
	(Lagging head)			◎ TP203 ⓘ VR201 [RFP] ☆ 150 mVp-p (Connect the GND of the probe to TP204.)	3. Adjust VR to obtain the signal level at the measuring point.



No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
3	[1+D] adjustment	**[CAUTION]** **• This adjustment requires the use of the BR-D80, the BR-D85 or a spectrum analyzer. Therefore, the adjustment procedure in the case of the BR-D80 or BR-D85 is as described in subsection 3A and in the case when a spectrum analyzer is used as described in subsection 3B. Select either subsection according to the available instruments.**			
3A	When the BR-D80/BR-D85 is used (Preparation)		BR-D80/BR-D85 mode Menu switch "No. 111", internal color bar Test mode (6F 00 00) REC mode		**[PREPARATION]** **• Create a tape on which a 24.75 MHz pulse is recorded by using the following method.** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** 1. Press the MENU button of the BR-D80 or BR-D85 to select "No. 111", then select "INTERNAL COLOR BAR" and press the SET button. 2. Turn power OFF then turn power ON again in the test mode. **Note** **A) Turn the power switch to on.** **B) Press the "COUNTER RESET", "FF" and "REW" buttons at the same time within 2 second after counter display "00 00 00 00" is appeared.** 3. Press the MENU or SET button so that the counter displays "6F 00 00". 4. Press the COUNTER RESET button and check that the counter displays "6F P 00 00". 5. Load a digital S tape. 6. Press the REC and PLAY buttons to start recording. 7. After recording for a few minutes, press the STOP button. 8. Press the COUNTER RESET button and check that the counter displays "6F End". 9. Eject the digital S tape. This tape contains the recording of the 24.75 MHz pulse.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
	(Leading head)	Oscilloscope (H-rate, 10:1) Tape containing the recording of 24.75 MHz pulse	PLAY	◎ TP317 [RFP] ◎ TP318 (GND) [RFP] ① VR312 [RFP] ① VC301 [RFP] ☆ Minimum level	**[CAUTION]** **• Be sure to use an oscilloscope with a measuring band of 300 MHz or more. (The level would be lower if an oscilloscope with a measuring band below 300 MHz is used.)** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** 10. Load the digital S tape containing the recording of 24.75 MHz pulse and playback the pulse recording section. 11. The 24.75 MHz (about 40 ns) signal is observed together with noise. Adjust VRs to obtain the minimum level at the measuring point.
	(Lagging head)			◎ TP417 [RFP] ◎ TP418 (GND) [RFP] ① VR412 [RFP] ① VC401 [RFP] ☆ Minimum level	**[CAUTION]** **• Be sure to use an oscilloscope with a measuring band of 300 MHz or more. (The level would be lower if an oscilloscope with a measuring band below 300 MHz is used.)** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** 13. The 24.75 MHz (about 40 ns) signal is observed together with noise. Adjust VRs to obtain the minimum level at the measuring point.





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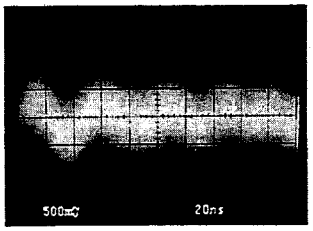
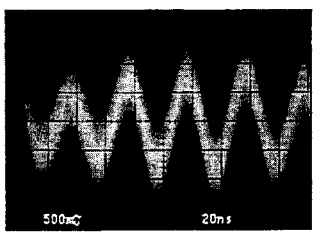


OK

12. Proceed to the adjustment of the trailing head.



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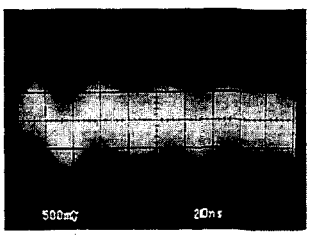

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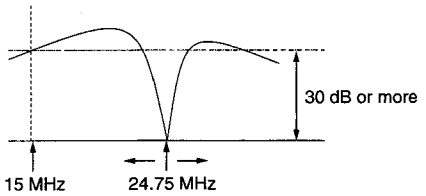
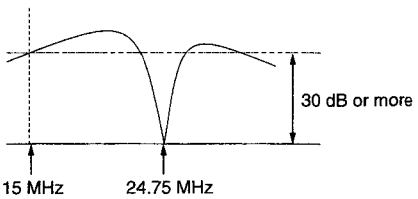
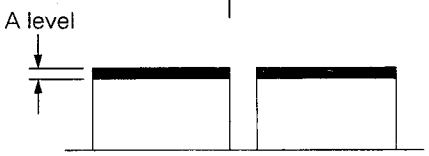
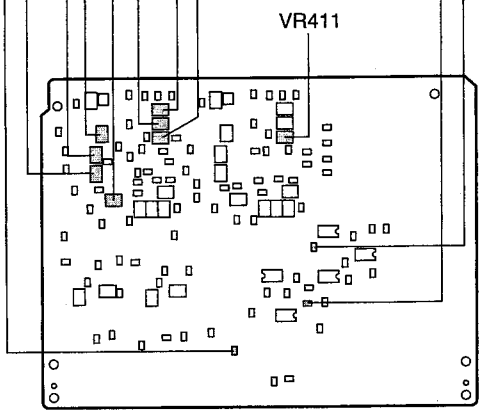
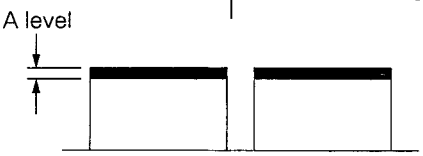
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (ⓘ) Adjustment level (☆)	Adjustment procedure
3B	When the spectrum analyzer is used (Leading head)	Spectrum analyzer Alignment tape "MSHV-1"	PLAY	◎ TP317 [RFP] ◎ TP318 (GND) [RFP] ⓘ VC301 [RFP] ☆ Minimum level is 24.75 MHz. ◎ TP317 [RFP] ◎ TP318 (GND) [RFP] ⓘ VR312 [RFP] ☆ Adjust so that the 24.75 MHz level is –30 dB or lower compared to the 15 MHz level.	**[CAUTION]** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** 1. Load and playback alignment tape "MSHV-1". 2. Adjust VR to obtain the signal level at the measuring point. 3. Adjust VRs to obtain the signal level at the measuring point. 4. Repeat steps 2 and 3 above for a few times.  5. Proceed to the adjustment of lagging head.
	(Lagging head)			◎ TP417 [RFP] ◎ TP418 (GND) [RFP] ⓘ VC401 [RFP] ☆ Minimum level is 24.75 MHz. ◎ TP417 [RFP] ◎ TP418 (GND) [RFP] ⓘ VR412 (RFP) ☆ Adjust so that the 24.75 MHz level is –30 dB or lower compared to the 15 MHz level.	6. Adjust VR to obtain the signal level at the measuring point. 7. Adjust VRs to obtain the signal level at the measuring point. 8. Repeat steps 2 and 3 above for a few times. 

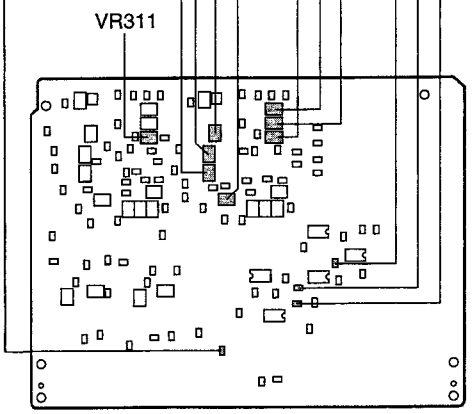
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (ⓘ) Adjustment level (☆)	Adjustment procedure
4	Error rate preliminary adjustment (Leading head)	Oscilloscope (V-rate, 10:1) EXT. TRIG., TP512 [RFP] Alignment tape "MSHV-1"	PLAY	◎ TP524 [RFP] ◎ TP506 (GND) [RFP] ⓘ VR305 [RFP] ☆ Minimize level of A	**[CAUTION]** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** 1. Playback alignment tape "MSHV-1". 2. Set VR311 to the fully clockwise position. 3. Adjust VR to obtain the signal waveform is stabilized and level of A part is minimized at the measuring point.
				◎ TP524 [RFP] ◎ TP506 (GND) [RFP] ⓘ VR306 [RFP] ⓘ VR307 [RFP] ⓘ VR308 [RFP] ⓘ VR309 [RFP] ⓘ VR310 [RFP]	4. Adjust VRs to obtain the signal waveform is stabilized and level of A part is minimized at the measuring point. 5. Proceed to the adjustment of the trailing head.



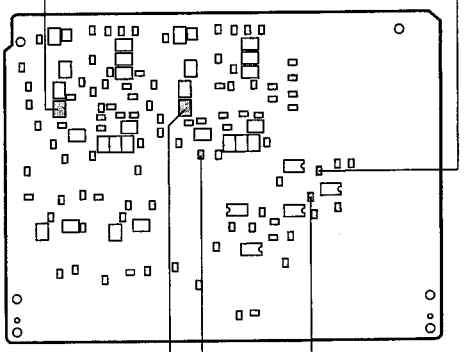


No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
4	(Lagging head)	Oscilloscope (V-rate, 10:1) EXT. TRIG., TP512 [RFP] Alignment tape "MSHV-1"	PLAY	◎ TP519 [RFP] ◎ TP506 (GND) [RFP] ① VR405 [RFP] ☆ Minimize level of A	**[CAUTION]** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** 6. Playback alignment tape "MSHV-1". 7. Set VR411 to the fully clockwise position. 8. Adjust VR to obtain the signal waveform is stabilized and level of A part is minimized at the measuring point.
				◎ TP519 [RFP] ◎ TP506 (GND) [RFP] ① VR406 [RFP] ① VR407 [RFP] ① VR408 [RFP] ① VR409 [RFP] ① VR410 [RFP]	9. Adjust the VR to obtain the signal waveform is stabilized and level of A part is minimized at the measuring point.
				① VR311 ① VR411 ☆ Turn the fully clockwise	10. Turn the VRs (VR311 and VR411) fully clockwise.





No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
5	PLL lock preliminary adjustment (Leading head)	Digital voltmeter Oscilloscope (V-rate, 10:1) EXT. TRIG. TP512 [RFP] Alignment tape "MSHV-1"	PLAY	◎ TP331 [RFP] ◎ TP516 [RFP] ① VR305 [RFP] ☆ ((a+b)/2 – 0.05) V ± 0.01 V	**[CAUTION]** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** 1. Playback alignment tape "MSHV-1". 2. Connect the digital voltmeter to TP331 and the oscilloscope to TP516. 3. Set the VR311 and VR411 to the fully clockwise position. 4. Set VR305 to the fully counterclockwise position, then rotate it slowly clockwise while observing the oscilloscope waveform. When the observed signal is locked as shown in the diagram, measure the voltage at TP331 using the digital voltmeter. Assume that this voltage is "a". 5. Set VR305 to the fully clockwise position.
	(Lagging head)			◎ TP431 [RFP] ◎ TP521 [RFP] ① VR405 [RFP] ☆ ((a+b)/2 – 0.05) V ± 0.01 V	6. Press the "STOP" button, and then playback the alignment tape. 7. Rotate VR305 slowly counterclockwise from the fully clockwise position while observing the oscilloscope waveform. When the observed signal is locked as shown in the diagram, measure the voltage at TP331 using the digital voltmeter. Assume that this voltage is "b". 8. Substitute measured voltages "a" and "b" in the following equation. $X = \left(\frac{a+b}{2} - 0.05\right)$ 9. Adjust VR305 so that the voltage at TP331 is equal to the value of "x" in the above equation. 10. Connect the digital voltmeter to TP431 and the oscilloscope to TP521. 11. Adjust VR so that the same adjustment of leading head.



No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure

[CAUTION] Before proceeding to Section 3.6.6, "Recording current adjustment" and Section 3.6.7, "Error rate adjustment", complete 2.0.0, "Switching point adjustment" and switch auto tracking ON.

6	Recording current adjustment	Digital S tape	STOP mode DIAG mode (72: .---)	Automatic adjustment	1. Set DIAG mode "72: .---" (see the subsection "1.3.2 Item selection procedure"). 2. Load a digital S tape and put the VCR in stop mode. 3. Press the SELECT button to start automatic adjustment. 4. Check that the counter displays "72:Ed:00 00". 5. Quit the DIAG mode. 6. Proceed to sub section "3.6.8 Error rate adjustment".

- The automatic adjustment is executed in the following sequence.

A) It so recorded the signal 4 times that recording current shifted 16 steps (1 step is about 4 second) (the total required time is about 4 minutes). During this the display shows

"72:P .10 88"

0AH step from 00 to 96

B) Tape is rewound to the recording start point in REV search mode. The display shows "72:P .20 00" during this.

C) The VCR enters PLAY mode and detects the playback level of the recorded section. Then the optimum playback level of each head (CH1 leading, CH2 trailing) is identified and the recording currents are determined based on this analysis (the required time is about 4 minutes). During this operation, the display shows

"72:P .38 88"

data 1 data 2

data 1: The head being detected (1 to 4).
data 2: Hex data between 00H and FFH.
When the playback levels of all the steps have been detected and the optimum values are identified, the displayed data changes.

D) When the optimum values of all the heads have been identified, the VCR enters STOP mode and automatic adjustment is completed.

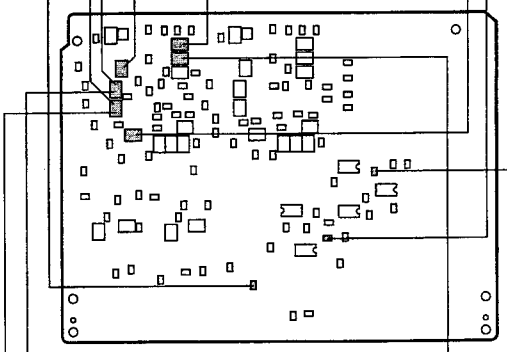
[CAUTION]

Counter display "72:Er:00 00" appears for one of the following reasons;
a) the PRESET button is pressed during operation; or
b) the VCR mode is changed; or
c) the tape end is detected; or
d) the adjustment is defective.
If the reason is a) or b), restart adjustment from the beginning. If the reason is c), rewind tape and restart adjustment. If the reason is d), perform the adjustments in subsection "3.6.1" to "3.6.5" again.

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure

[CAUTION] Before proceeding to subsection "3.6.7 Error rate adjustment", complete "3.5.3 Playback switching point adjustment" and switch auto tracking ON.

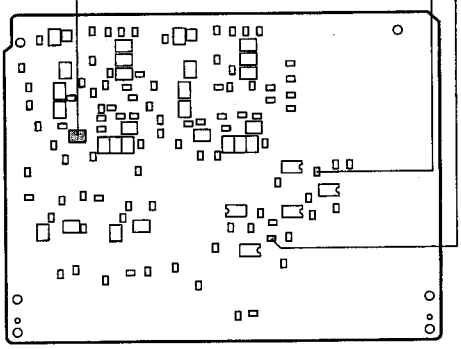
7	Error rate adjustment (Preparation)	Analog component color bar, etc.	REC		1. Load a digital S tape. 2. Connect the video signal input tool. 3. Inst the analog component color bar signal. 4. Set the VTR trigger switch of the video signal input tool to "REC" and record signals for a few minutes. Switch the input signals a few times during recording (in order to check the compensation). 5. Set the VTR trigger switch of the video signal input tool to "PAUSE" then end recording. 6. Rewind the recorded section.
	(Leading head)	Oscilloscope (V-rate, 10:1) EXT. TRIG. TP512 [RFP] Frequency counter	PLAY	◎ TP516 [RFP] ◎ TP506 (GND) [RFP] ① VR309 [RFP] ① VR308 [RFP] ① VR307 [RFP] ① VR306 [RFP] ① VR305 [RFP] ☆ Minimize the frequency counter display (no more than 3 kHz). ☆ Minimized pulse count in osciloscope display	1. Set VR311 to the fully clockwise position. 2N. Set VR411 to the fully colockwise poistion. (for U-Ver.). 2P. Set Vr411 to the fully counterclockwise position (for E-Ver.). 3. Playback the digital S tape which was recorded in the preparation stage. 4. Connect the oscilloscope and frequency counter to TP516. 5. While observing the oscilloscope and frequency counter, adjust VR308 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 6. While observing the oscilloscope and frequency counter, adjust VR307 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 7. While observing the oscilloscope and frequency counter, adjust VR306 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 8. While observing the oscilloscope and frequency counter, adjust VR309 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 9. Initiate REV search mode. 10. While observing the oscilloscope and frequency counter, adjust VR310 to minimize the frequency. 11. Initiate play mode. 12. While observing the oscilloscope and frequency counter, adjust VR307 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 13. While observing the oscilloscope and frequency counter, adjust VR306 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 14. Proceed to the adjustment of the trailing head.
			REV. SEARCH	① VR310 ☆ Minimize the frequency counter display (20 to 30 kHz for U-ver.). (10 to 15 kHz for E-ver.).	
			PLAY	① VR307 ① VR306 ☆ Minimize the frequency counter display (no more than 3 kHz).	

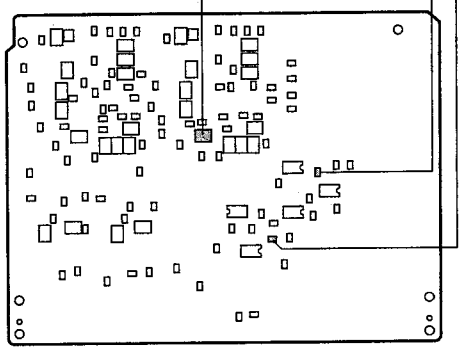


WAVEFORM

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (Ⓘ) Adjustment level (☆)	Adjustment procedure
	(Lagging head)	Oscilloscope (V-rate, 10:1) EXT. TRIG. TP512 [RFP] Frequency counter	PLAY	◎ TP521 [RFP] ◎ TP506 (GND) [RFP] Ⓘ VR409 [RFP] Ⓘ VR408 [RFP] Ⓘ VR407 [RFP] Ⓘ VR406 [RFP] ☆ VR405 [RFP] Minimize the frequency counter display (no more ☆ than 3 kHz). Minimum pulse count in osciloscope	1. Set VR411 to the fully clockwise position. 2N. Set VR311 to the fully clockwise position (for U-Ver.). 2P. Set VR311 to the fully counterclockwise position (for E-Ver.). 3. Playback the digital S tape which was recorded in the preparation stage. 4. Connect the oscilloscope and frequency counter to TP521. 5. While observing the oscilloscope and frequency counter, adjust VR408 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 6. While observing the oscilloscope and frequency counter, adjust VR407 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 7. While observing the oscilloscope and frequency counter, adjust VR406 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 8. While observing the oscilloscope and frequency counter, adjust VR409 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 9. Initiate REV search mode. 10. While observing the oscilloscope and frequency counter, adjust VR410 to minimize the frequency. 11. Initiate play mode. 12. While observing the oscilloscope and frequency counter, adjust VR407 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 13. While observing the oscilloscope and frequency counter, adjust VR406 to minimize the frequency. (Adjust VR to obtain the specified minimum count of pulse and smallest frequency count.) 14. Set the VR311 to the fully clockwise position. 15. Set the VR411 to the fully clockwise position.
			REV. SEARCH	Ⓘ VR410 ☆ Minimize the frequency counter display (20 to 30 kHz for U-ver.) (10 to 15 kHz for E-ver.)	
			PLAY	Ⓘ VR407 Ⓘ VR406 ☆ Minimize the frequency counter display (no more than 3 kHz for U-ver.). (No more than 1.5 kHz for E-ver.)	
8	PLL lock preliminary adjustment				**[CAUTION]** **• Check that subsection "3.5.3 Playback switching point adjustment", "3.6.6 Recording current adjustment" and "3.6.7 Error rate adjustment" has been completed before proceeding to the following this adjustment.** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** Adjust the same adjustment "3.6.5 PLL lock preliminary adjustment (Leading head/Lagging head)".

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
9	Error rate check (Leading head)	Color bar signal Digital S tape (DS104) Frequency counter	PLAY	◎TP516 [RFP] ◎TP506 (GND) [RFP] ☆No more than 3 kHz for U-ver. No more than 1.5 kHz for E-ver. ①for U-ver. VR306 [RFP]	**[CAUTION]** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** 1. Record color bar signal and play it back. 2. Connect the frequency counter to the adjustment point and check the error rate. 3. Set VR411 to the fully clockwise position. 4N. Set VR311 to the fully clockwise position (for U-Ver.). 4P. Set VR311 to the fully counterclockwise position (for E-Ver.). 5. The error rate check result is OK if the frequency counter reading is no more than 3 kHz (for U-Ver.) 1.5 kHz (for E-Ver.) and almost equal to the value set by the prevously-made error rate adjustment. (See subsection 3.6.7) After PLL lock adjustment, if the error rate has increased (i.e. the reading is larger by 10% or more than the frequency value set by the error rate adjustment), adjust VR306 again and proceed to subsection "3.6.8 PLL lock adjustment".
	(Lagging head)	Color bar signal Digital S tape (DS104) Frequency counter		◎TP521 [RFP] ◎TP506 (GND) [RFP] ☆No more than 3 kHz for U-ver. No more than 1.5 kHz for E-ver. ①VR406 [RFP]	**[CAUTION]** **• Do not inputs the video signals when alignment tape is playback (only E-ver).** 1. Record color bar signal and play it back. 2. Connect the frequency counter to the adjustment point and check the error rate. 3. Set VR311 to the fully clockwise position. 4N. Set VR411 to the fully clockwise position (for U-Ver.). 4P. Set VR411 to the fully counterclockwise position (for E-Ver.) 5. The error rate check result is OK if the frequency counter reading is no more than 3 kHz (for U-Ver) 1.5 kHz (for E-Ver.) and almost equal to the value set by the prevously-made error rate adjustment. If the error rate has increased (i.e. the reading is larger by 10% or more than the frequency value set by the error rate adjustment), adjust VR406 again and proceed to subsection "3.6.8 PLL lock adjustment". 6. Set VR411 to the fully clockwise position.

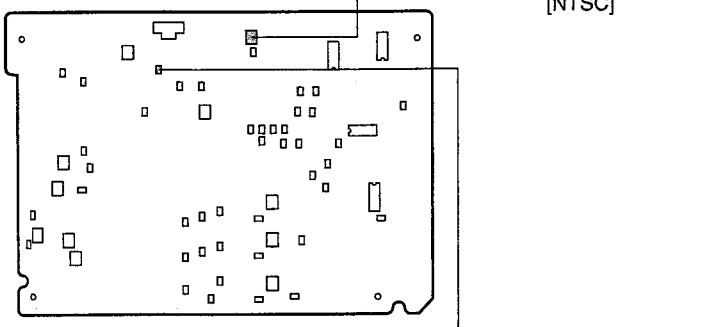


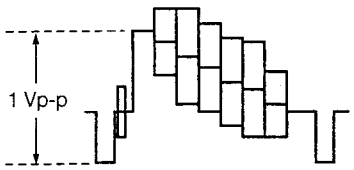


No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure

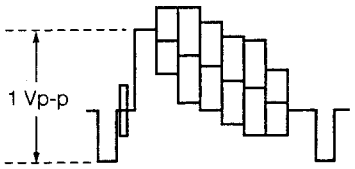
3.7 ADJUSTMENT OF VIDEO SIGNAL

1	Output level adjustment	Oscilloscope (H-rate) or WFM Alignment tape "MS-1" (color bar) [NTSC] or "MS-2" (colour bar) [PAL]	PLAY	◎VIDEO OUT (75 Ω terminated) ①VR1 [I/O SSG] ☆1 Vp-p	**CAUTION** **Complete Section 3.6, "RF Modulator/ Demodulator Adjustments" before proceeding to the following adjustment.** 1. Load the alignment tape. 2. Playback the section where the color bar signal is recorded. 3. Adjust the adjustment point so that the level at the measuring point is equal to the adjustment level.
2	Return Y signal check	Oscilloscope (H-rate) or WFM Alignment tape "MS-1" (color bar) [NTSC] or "MS-2" (colour bar) [PAL]	PLAY	◎TP11 [I/O SSG] ☆1.1 ± 0.1 Vp-p	**CAUTION** **After complete adjustment of subsection "3.6 ADJUSTMENT OF RF MODULATOR/ DEMODULATOR" before proceeding to the following this adjustment.** 1. Load the alignment tape. 2. Playback the section where the color bar signal is recorded. 3. Confirm that the level at measuring point meets the specified level.

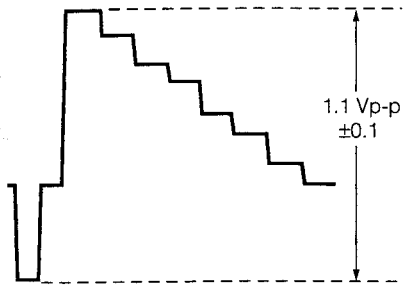




[NTSC]

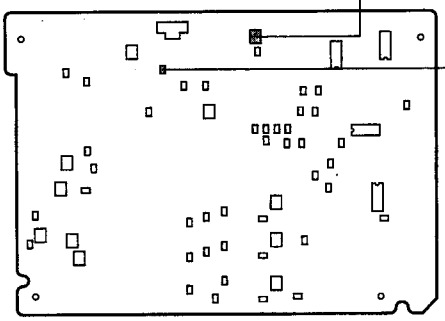


[PAL]

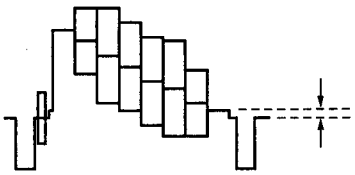


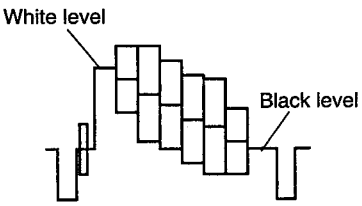
[NTSC] [PAL]

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
3	Input signal offset adjustment (Y signal)	Oscilloscope (H-rate) or WFM Color bar signal (7.5 setup for U-ver.)	EE mode	◎VIDEO OUT (75 Ω terminated) ①CPY (VR601) [I/O SSG] ☆Specified setup level	1. Connect the video signal input tool. 2. Input the standard color bar signal. 3. Maximize the setup level at the measuring point first, then adjust VR to obtain the specified level at the measuring point.
	(B-Y/R-Y signal)	Oscilloscope (H-rate) or WFM Color bar signal	EE mode	◎VIDEO OUT (75 Ω terminated) ①CPR (VR602) [I/O SSG] ①CPB (VR603) [I/O SSG] ☆Minimum carrier leak.	1. Connect the video signal input tool. 2. Input the standard color bar signal. 3. Adjust VRs to obtain the specified level at the measuring point. *** Procedure when a vectorscope is used** **(1) Vectorscope GAIN → Max.** **(2) Rotate CPR and CPB alternately to move the spot to the center position.**



NTSC	0 mV
PAL	0 mV





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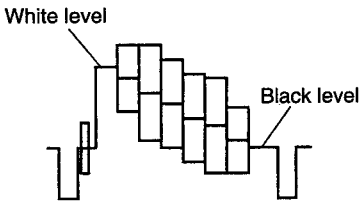

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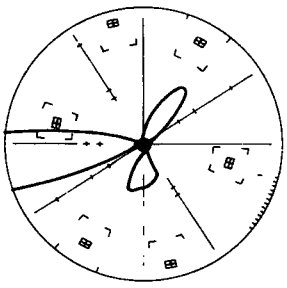
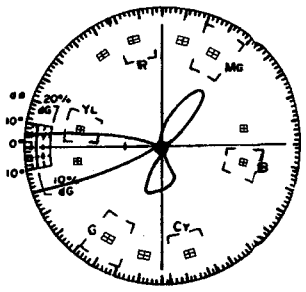
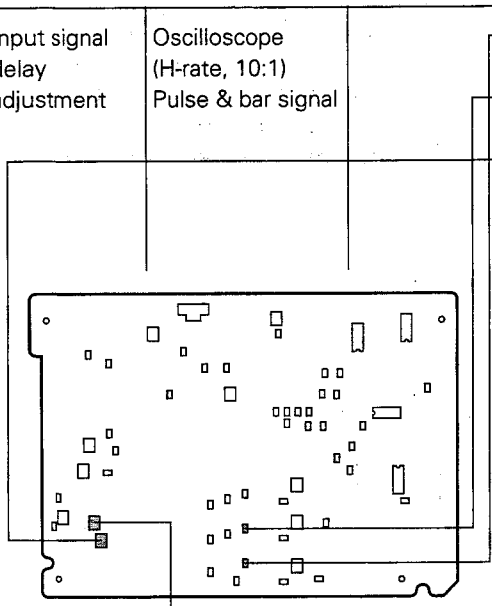


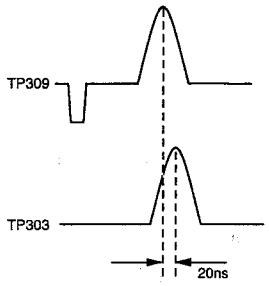
[NTSC]

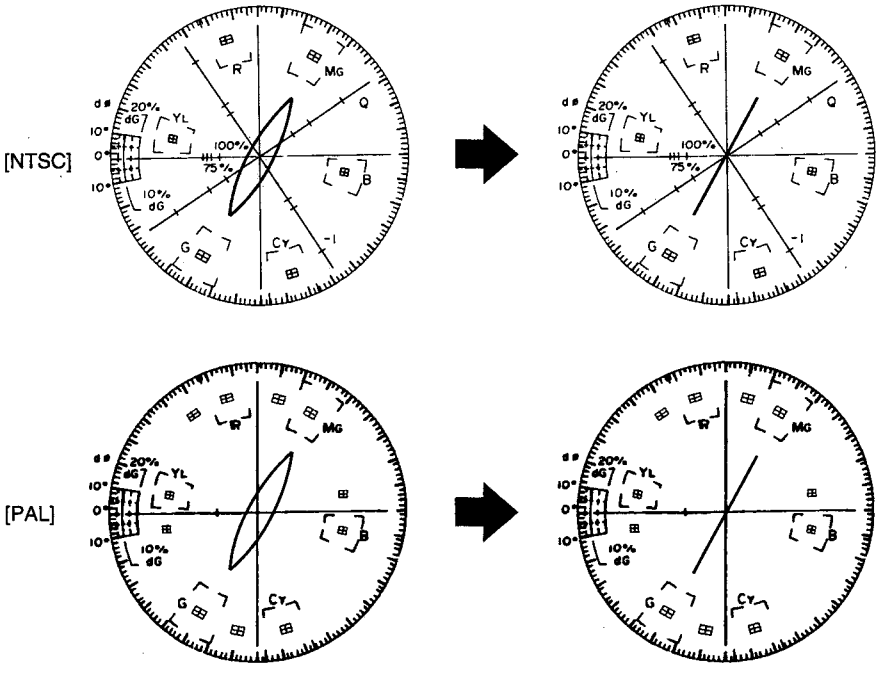


[PAL]

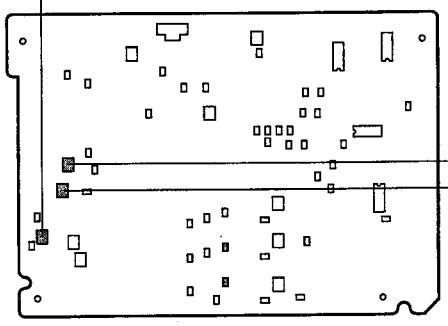
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
4	Input signal delay adjustment	Oscilloscope (H-rate, 10:1) Pulse & bar signal		◎ TP309 (Y signal) [I/O SSG] ◎ TP303 (R-Y signal) [I/O SSG] ① RDL (VR307) [I/O SSG] ☆ The R-Y signal should be delayed by 220 ns from the Y signal.	**[NOTE]** **• This adjustment is applied to set the delays of the Y and color differential signals recorded on tape to "0" because the BR-D40 uses different delays for the recording and playback of the Y and color differential signals circuit.** **• In this adjustment, color differential signals delayed then Y signal at the measuring point, but recording signals on the video tape are not delayed.** 1. Connect the input signal input tool. 2. Input the pulse & bar signal. 3. Adjust VR to obtain the specified waveform at the measuring point.
		Vectorscope Bow-tie signal		◎ VIDEO OUT (75 Ω terminated) ① BDL (VR304) [I/O SSG] ☆ The vectorscope trace should be straight.	4. Input the bow-tie signal. 5. Adjust VR to obtain the specified waveform at the measuring point.

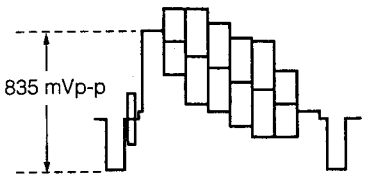




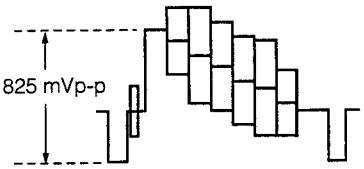


No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
5	Input signal level adjustment (Y signal)	Oscilloscope (H-rate) or WFM Color bar signal	EE mode	◎VIDEO OUT (75 Ω terminated) ①Y LEVEL (VR303) [I/O SSG] ☆1 Vp-p NTSC 835 mVp-p PAL 825 mVp-p	1. Connect the video signal input tool. 2. Input the standard color bar signal. 3. Adjust VR to obtain the specified level at measuring point.
	(B-Y/R-Y signals)	Vectorscope	EE mode	◎VIDEO OUT (75 Ω terminated) ①R LEVEL (R301) [I/O SSG] ◎B LEVEL (R302) [I/O SSG]	1. Connect the video signal input tool. 2. Input the standard color bar signal. 3. Adjust VRs to locate every spots (R, G, B, Mg, Cy, YL) at the respectively specified point on the vector scope screen.

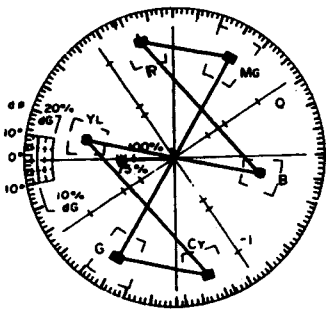




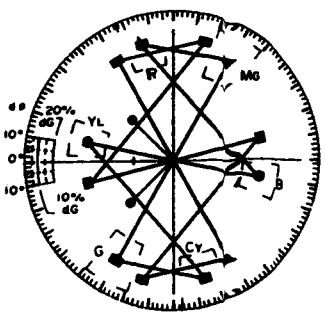
[NTSC]



[PAL]

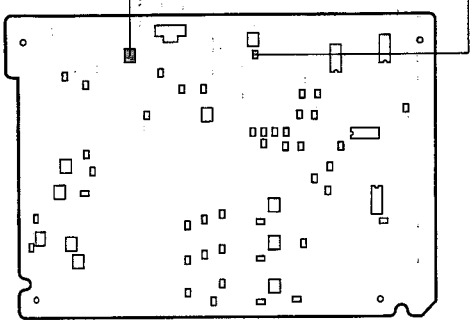


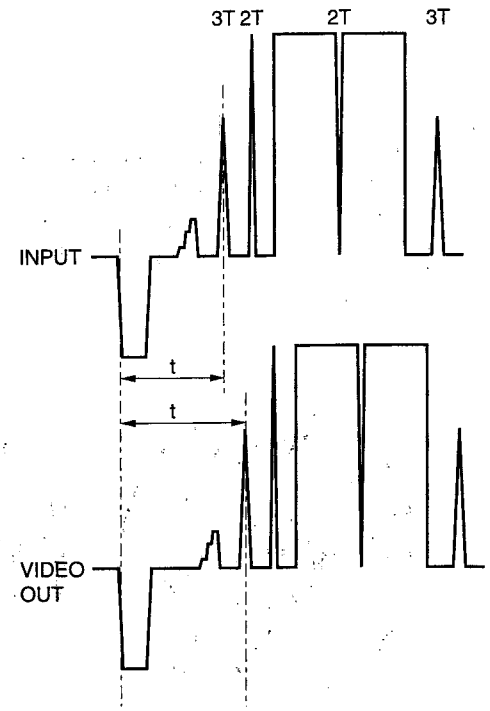
[NTSC]



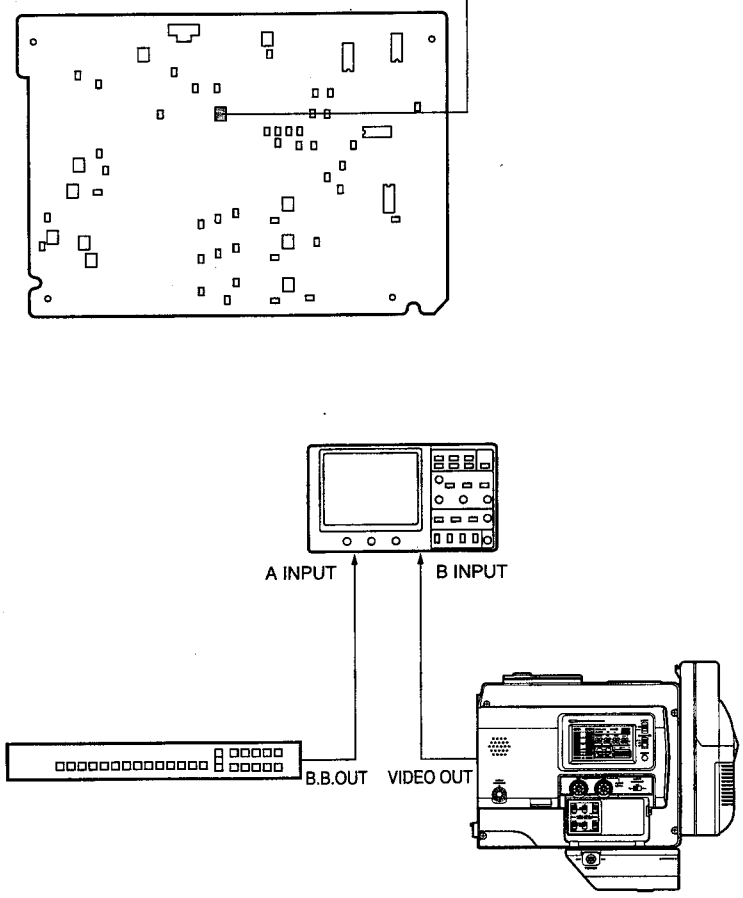
[PAL]

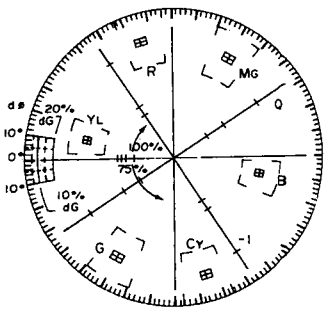
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (ⓘ) Adjustment level (☆)	Adjustment procedure
6	Input signal phase adjustment	Oscilloscope (H-rate, 10:1) Pulse & bar	EE mode	◎ Video signal input [Video signal input tool] ◎ Video out [75 Ω terminated] ⓘ PSDC (VR904) [I/O SSG] ☆ Match input signal to the video signal input tool with video out in the time from the sync. trailing edge peak medial point to the pulse peak.	1. Connect the video signal input tool. 2. Input the standard pulse & bar signal. 3. Adjust VR to obtain the specified width (from trailing edge peak medial point of H-sync to the pulse peak) at the measuring point.



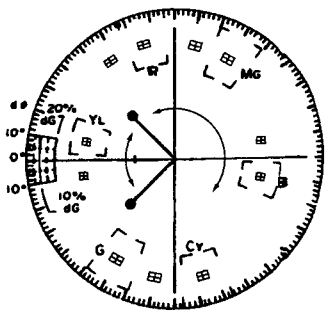


No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure
7	Internal SSG oscillation frequency adjustment	Vectorscope Black burst		◎ VIDEO OUT (75 Ω terminated) ① VR3 [I/O SSG] ☆ The vector rotation should be made slow to no more than 5 turns per second.	1. Remove all inputs to the BR-D40. 2. Input the black burst signal from a sync signal generator to input A of the vectorscope and terminate it with 75 Ω. 3. Connect VIDEO OUT of the BR-D40 to input B of the vectorscope and terminate it with 75 Ω. 4. Do not gen-lock the SSG and BR-D40 but allow both of them free running. 5. Set input A as the reference input of the vectorscope and observe the waveform at input B. 6. Adjust VR so that the burst section displayed on the vectorscope turns very slowly (no more than 5 turns per second).





[NTSC]

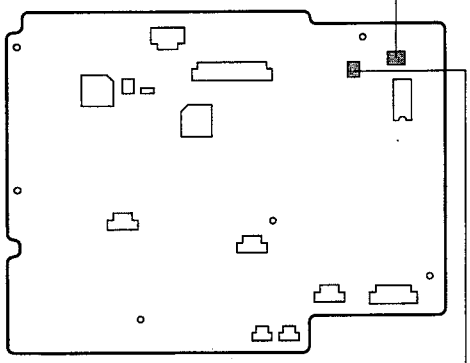


[PAL]

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (①) Adjustment level (☆)	Adjustment procedure

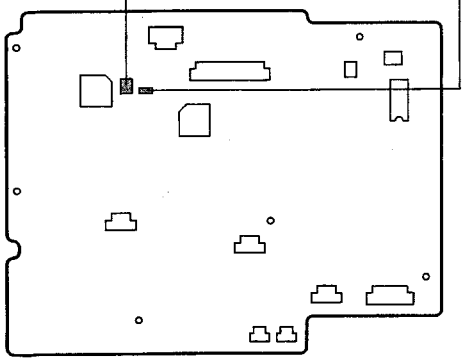
3.8 ADJUSTMENT OF AUDIO SIGNAL

1	Output level adjustment (Channel 1)	Audio tester Alignment tape "MS-1" (NTSC) or "MS-2" (PAL)	PLAY	◎ AUD1 OUT (Rear panel) ① CH1 (VR261) [AUDIO & LCD] ☆ –6 dBs	1. Load and playback the alignment tape. 2. Adjust VR to obtain the specified level at the measuring point.
	(Channel 2)	Audio tester Alignment tape "MS-1" (NTSC) or "MS-2" (PAL)	PLAY	◎ AUD2 OUT (Rear panel) ① CH2 (VR262) [AUDIO & LCD] ☆ –6 dB	1. Load and playback the alignment tape. 2. Adjust VR to obtain the specified level at the measuring point.



3.9 ADJUSTMENT OF CLOCK

1	Frequency adjustment	Frequency counter	STOP	◎ TP404 [AUDIO & LCD] ① VC401 [AUDIO & LCD] ☆ 32.768 kHz	1. Initiate "STOP" mode. 2. Adjust VC to obtain the specified level at the measuring point.



SECTION 4
DIAGRAMS AND CIRCUIT BOARDS

■ FOREWORD

1. Expression of wiring

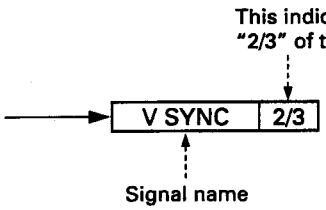
As the following circuit diagram is divided to print on some sheets, such an indication as the following is found in the case the wiring extends over two or more divided sections.

1) Circuit diagram divided into two or more sections:

Board	Board Name	Number of divided sections
0 1	AUDIO & LCD	1/4 – 4/4
0 2	PV PROCESS	1/7 – 7/7
0 3	I/O SSG	1/3 – 3/3
0 4	RFP	1/5 – 5/5
0 5	S/S REG	1/3 – 3/3
0 6	PRE/REC	1/3 – 3/3
—	OVERALL	1/2 – 2/2

2) Indication of wiring which extends to another section:

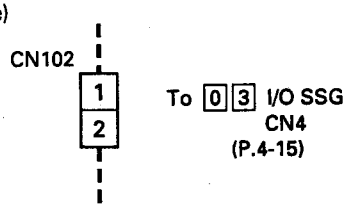
(Example)



In the above case, the end of the wiring is connected to the "V SYNC" on the 2nd section of the diagram.

2. Wiring of connector

(Example)



In the above example, CN102 is connected with CN4 on 0 3 I/O SSG board.

3. Signal flow on the diagram

The following allow marks indicate the specified signal paths respectively.

- ➡ : Recording or EE signal path
- ⇨ : Playback signal path
- ➡ : Recording and Playback signal path

4. Measurement of voltage

Measured by digital voltmeter in REC mode.
Volue in ( ) is indicated only in the case PB voltage is different from that in REC mode.

5. Unit of value

Unless otherwise specified:

1) Resistance is in Ω (1/6 W)
2) Capacitance in μF
3) Inductance in μH
4) The ⚠ symbol and screened parts in (▒▒) are important for safety assurance. When replacing them, use specified parts.

6. Others

In regard of a board assembly whose circuit is composed of multi-layered board patterns such as 4- or 6-layered patterns, board patterns of the power supply lines and grounding lines are omitted in this section.

Note: For detail of each electrical part, refer to Section 6 "ELECTRICAL PARTS LIST" by it symbol number.

4.1 REPLACING SUBMINATURE "CHIP" PARTS

1. General description

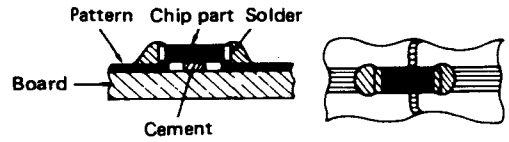
Some of resistors, variable resistors, shorting jumpers (0 Ω resistors), ceramic capacitors, transistors, diodes are chip parts. Those removed once cannot be used again.

2. Replacement of chip parts

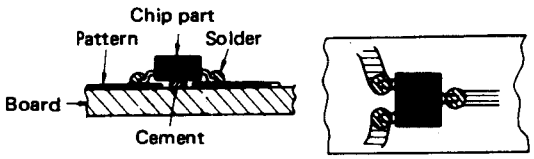
Replacement of chip parts should be performed as follows. Use a soldering iron (17 W for 260—30°C approx.) that has sharp-pointed tip and high performance in insulation.
It is more convenient to use a soldering iron with solder absorber (55 W approx.).

(1) Soldered condition of chip parts

- Resistors, capacitors, etc.



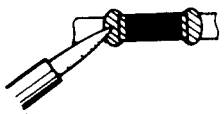
- Transistors, diodes, etc.



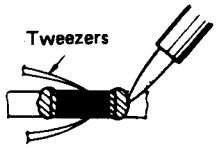
(2) Removing of chip parts

- Resistors, capacitors, etc.

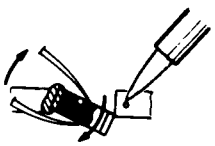
i) Melt solder at a side.



ii) Holding the chip with tweezers, melt solder at the other side.

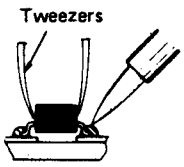


iii) Take off the chip in twisting and sliding motion.

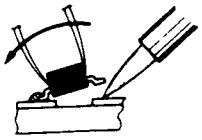


- Transistors, diodes, etc.

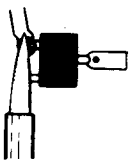
i) Melt solder at the side of single lead.



ii) Lift the unsolderd side upwards.



iii) Simultaneously melt solder at two leads of the other side and pull up the chip.

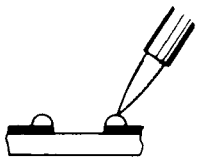


(3) Preheating and soldering of chip parts

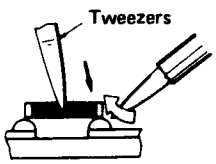
Except transistors, make sure to preheat all chip parts, capacitors in particular, with a hot wind of 150°C approx. (of a hair dryer, etc.) for 2 minutes just before soldering, and immediately solder by a soldering iron of approx. 30 W.

(4) Attaching of chip parts

i) Heap up a proper amount of solder beforehand.



ii) Holding down a new chip by tweezers, solder it to the board by a soldering iron to melt solder from its lower part to the upper part (in the direction shown by a big arrow).



Note:
- Don't heat chip parts over 3 seconds.
- Don't rub electrodes.
- Don't use chip parts which were once removed.
- No cement is required.

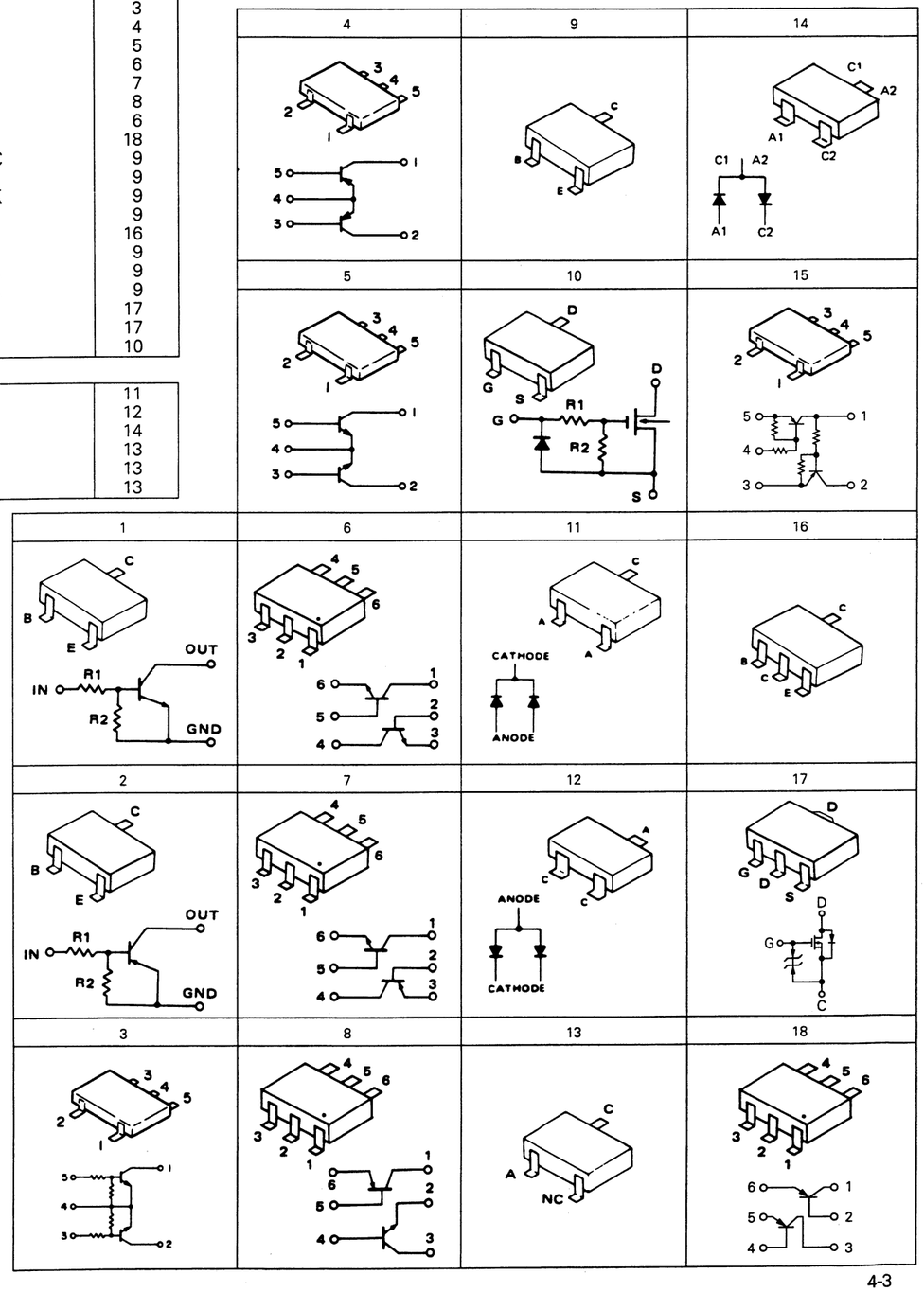
3. Shapes of stransistors & diodes

• Transistors

DTA124EK	2
DTA144EK	2
DTC114EK	1
DTC114YK	1
DTC144EK	1
DTC144EU	1
FMC2	15
FMG1	3
FMG2	3
FMS1	4
FMW1	5
IMX1	6
IMZ1	7
IMZ2	8
XN4504	6
XN6401	18
2SA1022C	9
2SB709	9
2SC2412K	9
2SC2778	9
2SC2873	16
2SC4081	9
2SD601/A	9
2SD602/A	9
2SJ278S	17
2SJ279S	17
2SK621	10

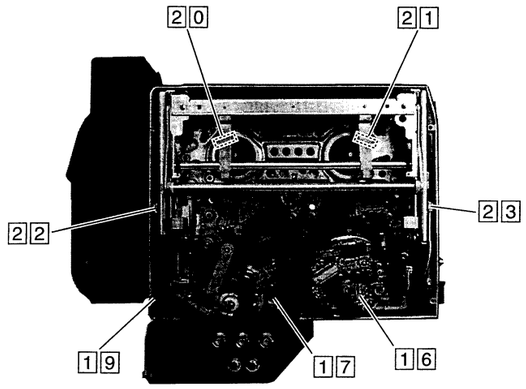
• Diodes

DAN202K	11
DAP202K	12
DA204K	14
MA28WA	13
MA3056	13
MA3075	13

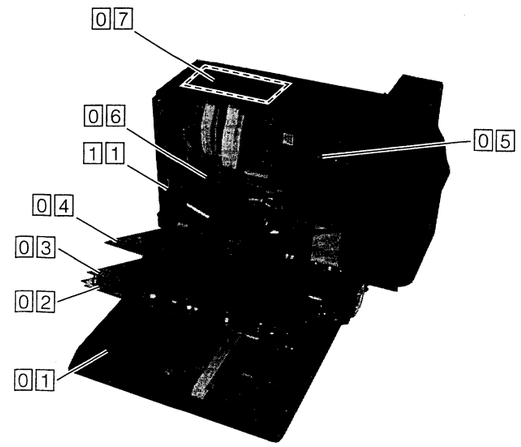


4.2 INDEX TO PAGES OF MAIN BOARDS AND CIRCUIT BOARD LOCATION

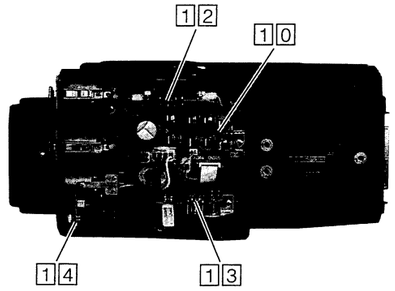
4.2.1 Circuit board location



Left side cover



Right side cover

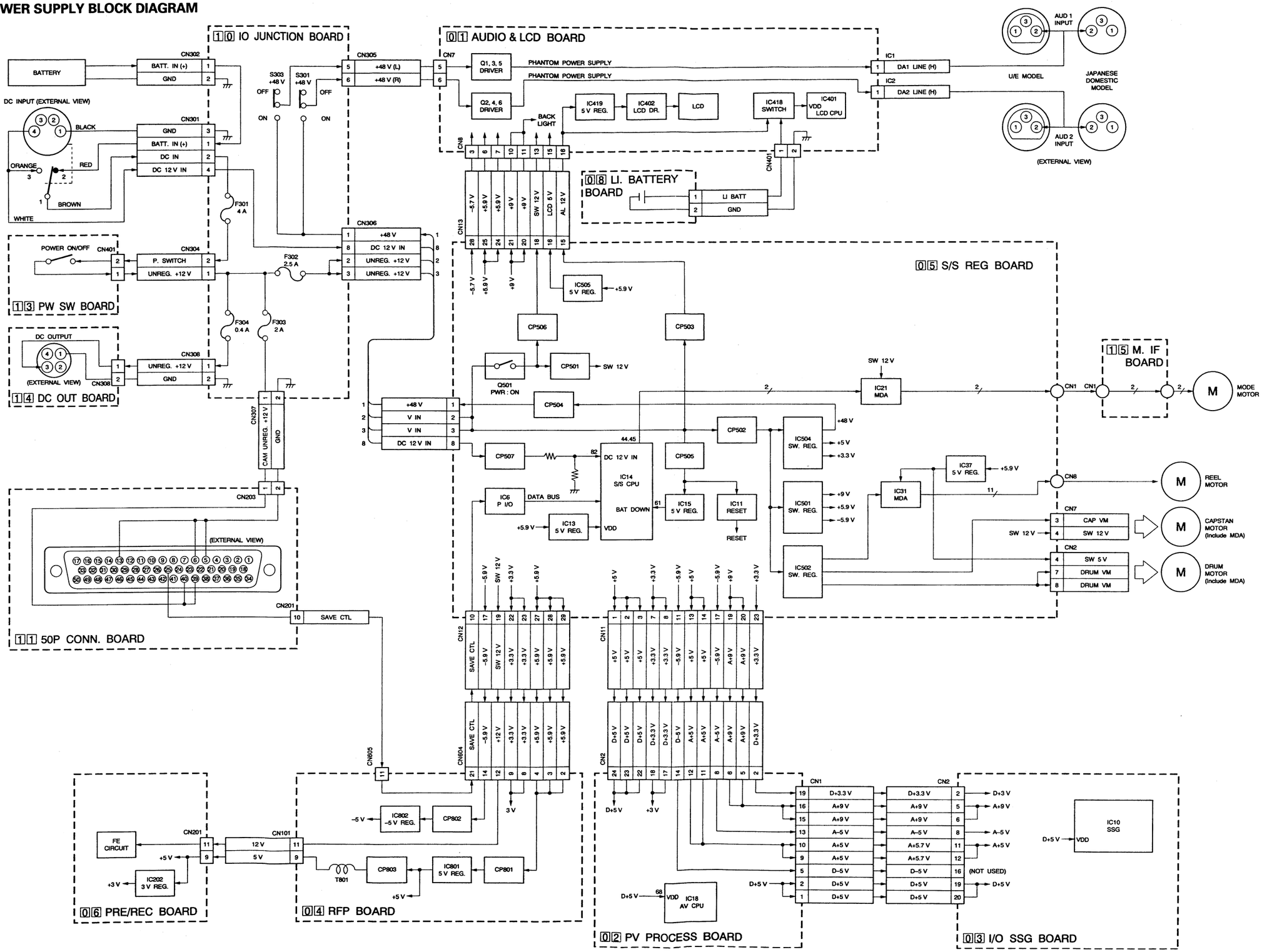


Bottom cover

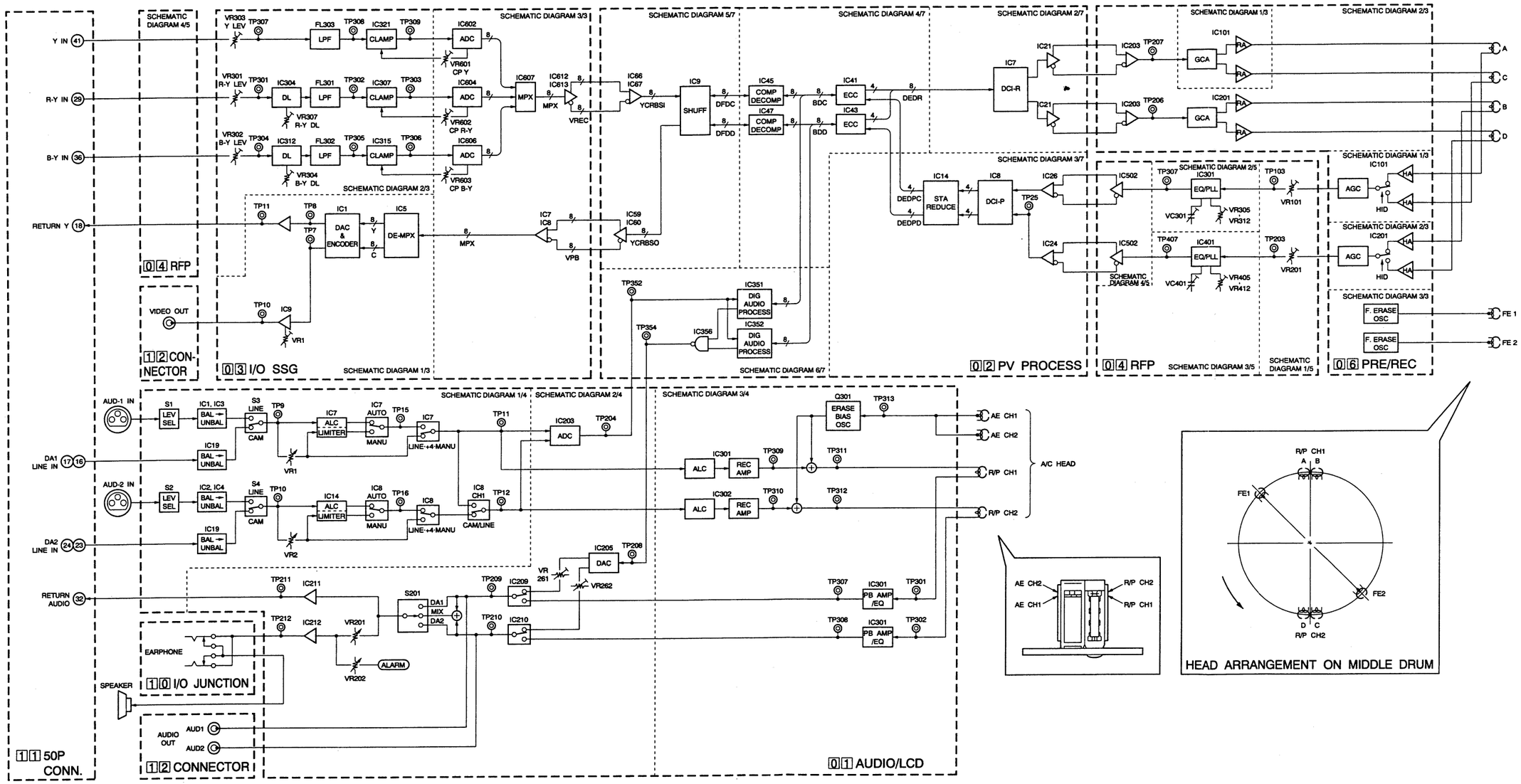
4.2.2 Index to pages of main boards

Board No.	Board Name	Page of diagram		
		Block diagram	Schematic diagram	Circuit board
01	AUDIO & LCD	4-12, 4-13	4-36 to 4-39	4-40 to 4-41
02	PV PROCESS	4-9	4-19 to 4-24	4-25
03	I/O SSG	4-8	4-15 to 4-17	4-18
04	RFP (RF PROCESS)	4-10	4-26 to 4-29	4-30 to 4-31
05	S/S REG	4-14	4-42 to 4-44	4-45
06	PRE/REC	4-11	4-32 to 4-34	4-35
07	OPERATION	–	4-47	4-47
10	IO JUNCTION	–	4-47	4-47
11	50P CONN.	–	4-50	4-50
12	CONNECTOR	–	4-50	4-50
13	POWER SW	–	4-49	4-50
14	DC OUT	–	4-49	4-50
15	MECHA. IF	–	4-48	4-50
16	DRUM MDA	–	4-46	4-46
17	A/C HEAD	–	4-48	4-50
18	MODE SENSE	–	4-48	4-50
19	AL SENSE	–	4-48	4-50
20	TU REEL FG	–	4-48	4-50
21	SP REEL FG	–	4-48	4-50
22	BEGIN SENSE	–	4-48	4-50
23	END SENSE	–	4-48	4-50
–	OVERALL	–	4-48 to 4-49	4-50

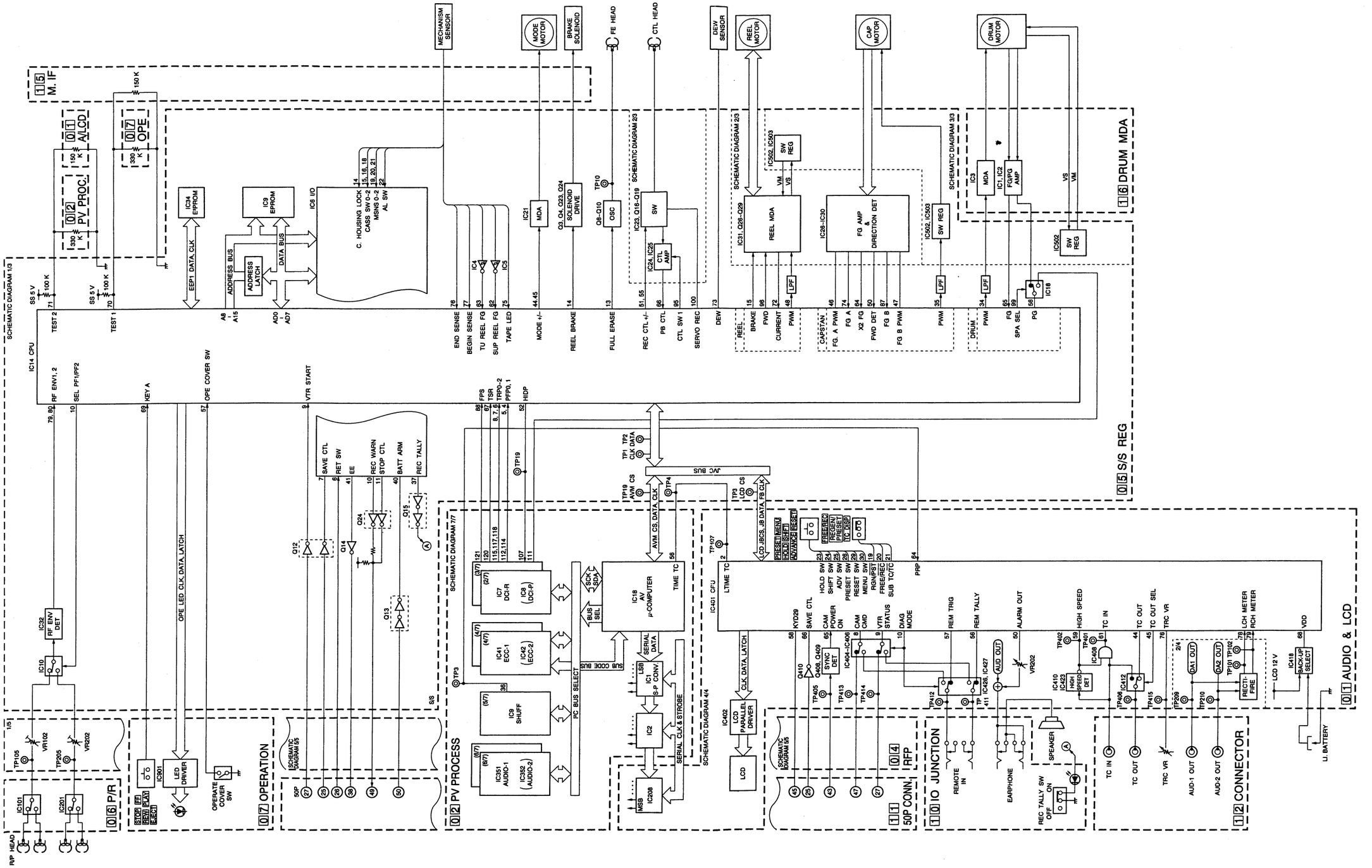
4.3 POWER SUPPLY BLOCK DIAGRAM



4.4 VIDEO & AUDIO BLOCK DIAGRAM

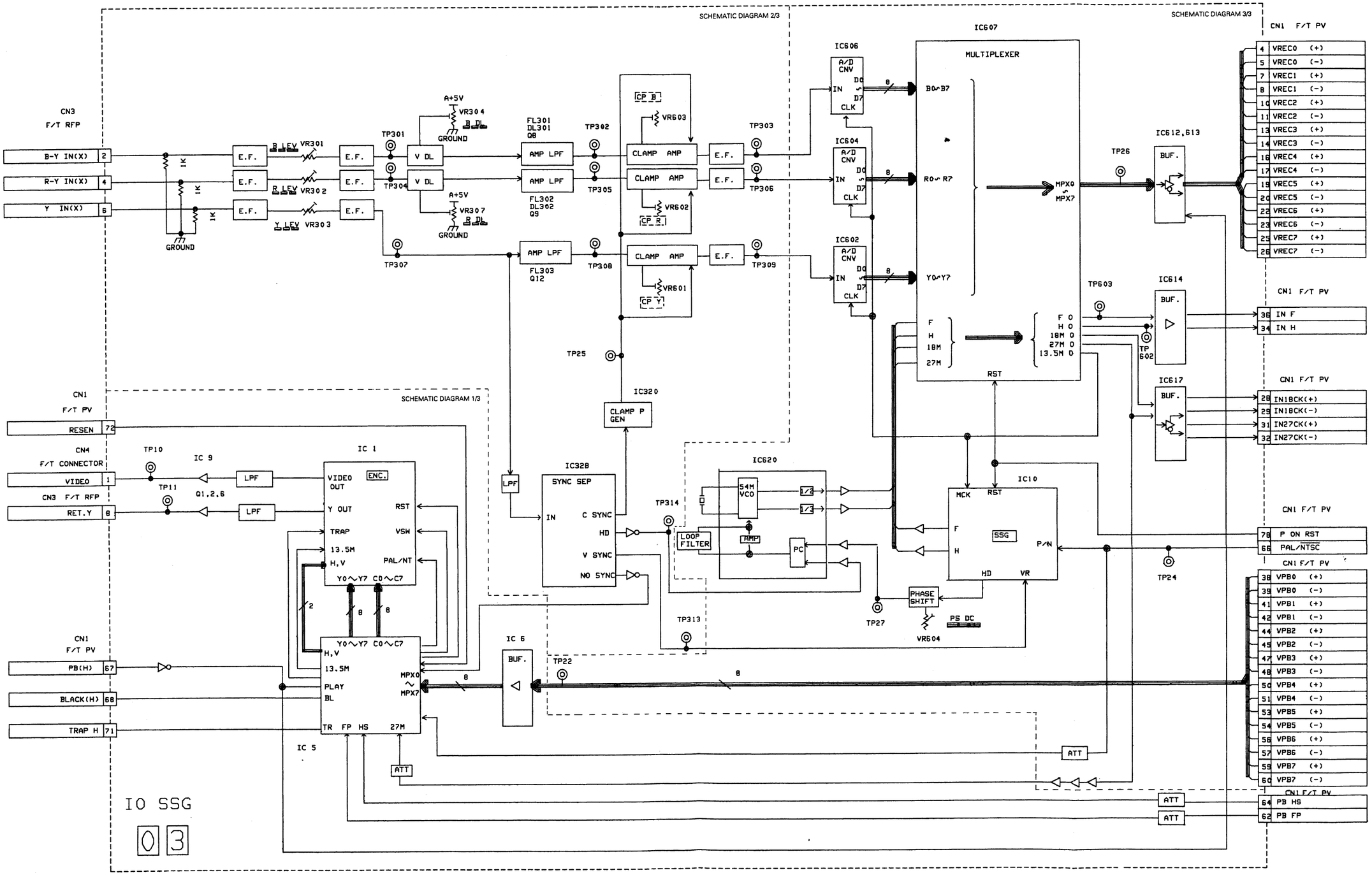


4.5 CONTROL SYSTEM BLOCK DIAGRAM



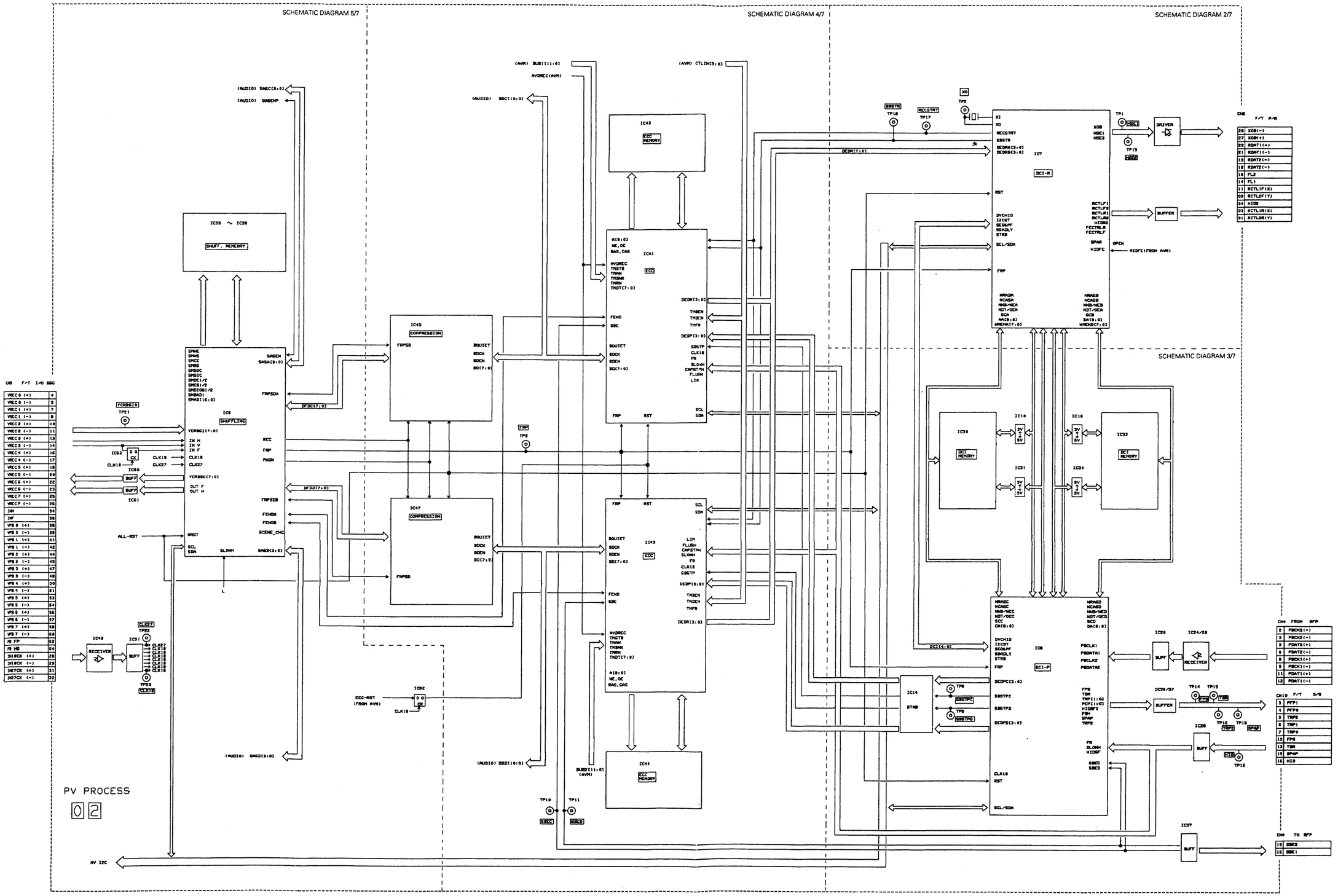
4-6

4.6 I/O SSG BLOCK DIAGRAM



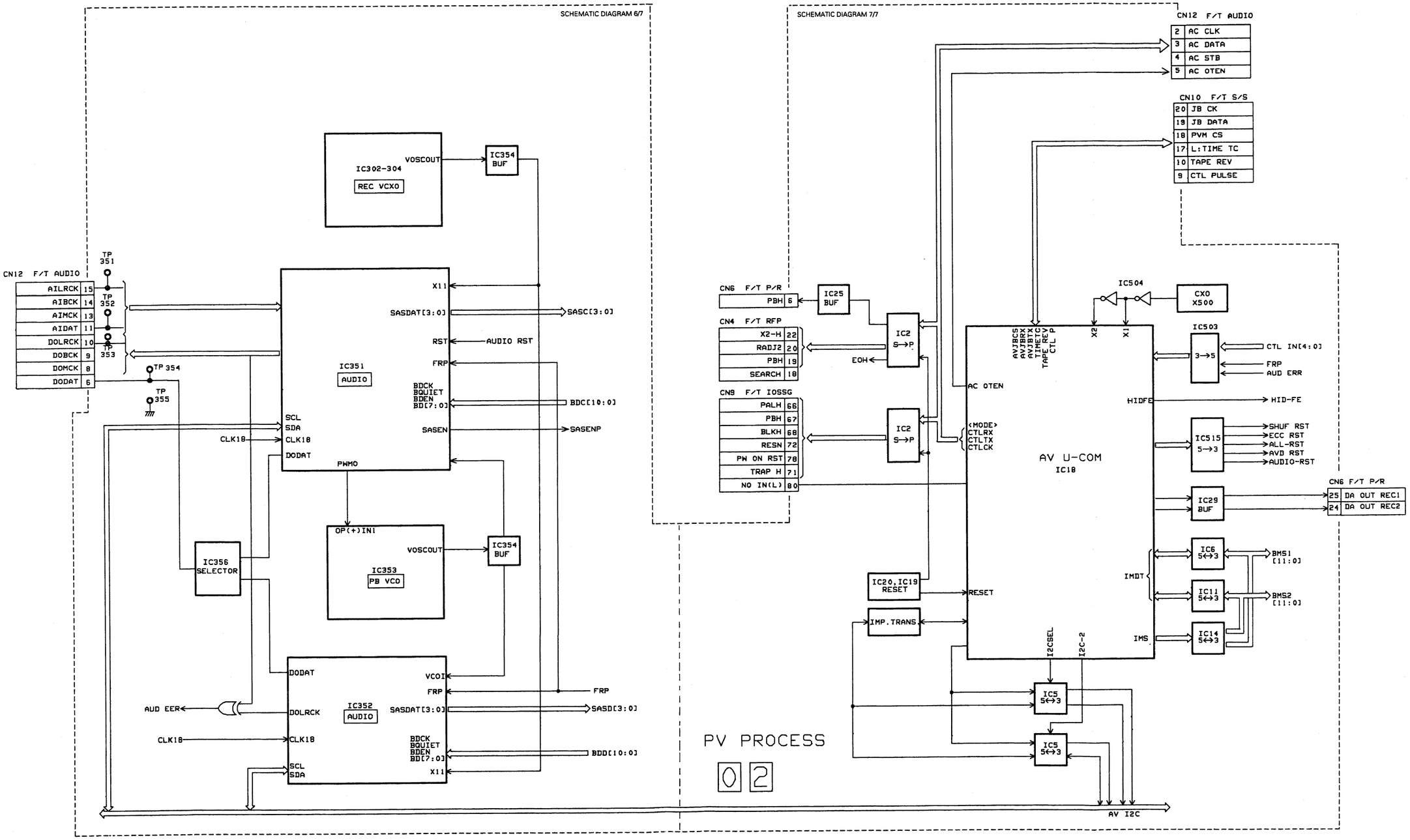
4.7 PV PROCESS BLOCK DIAGRAM

— DIAGRAM 1/2 —

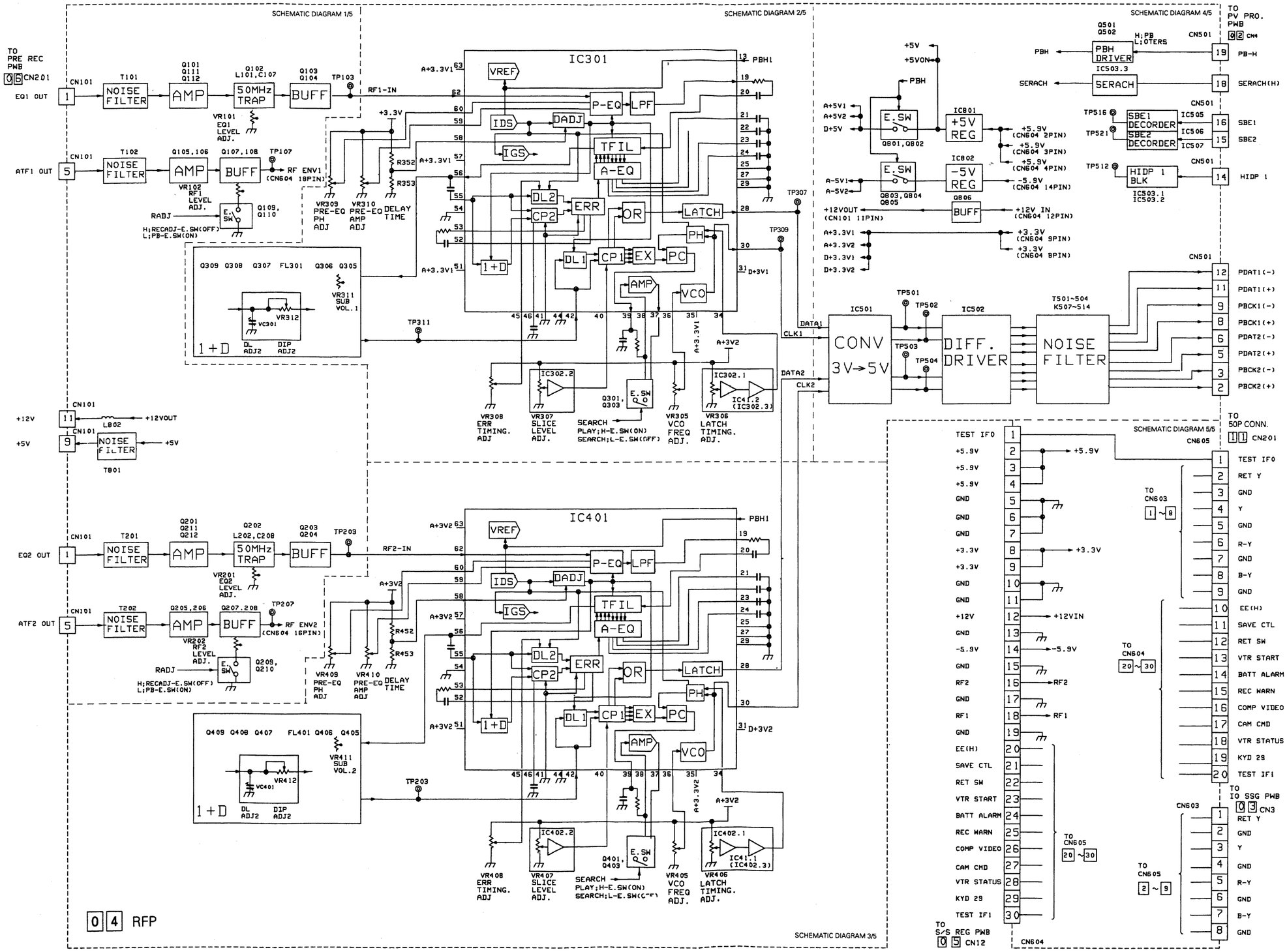


SCHEMATIC DIAGRAM 6/7

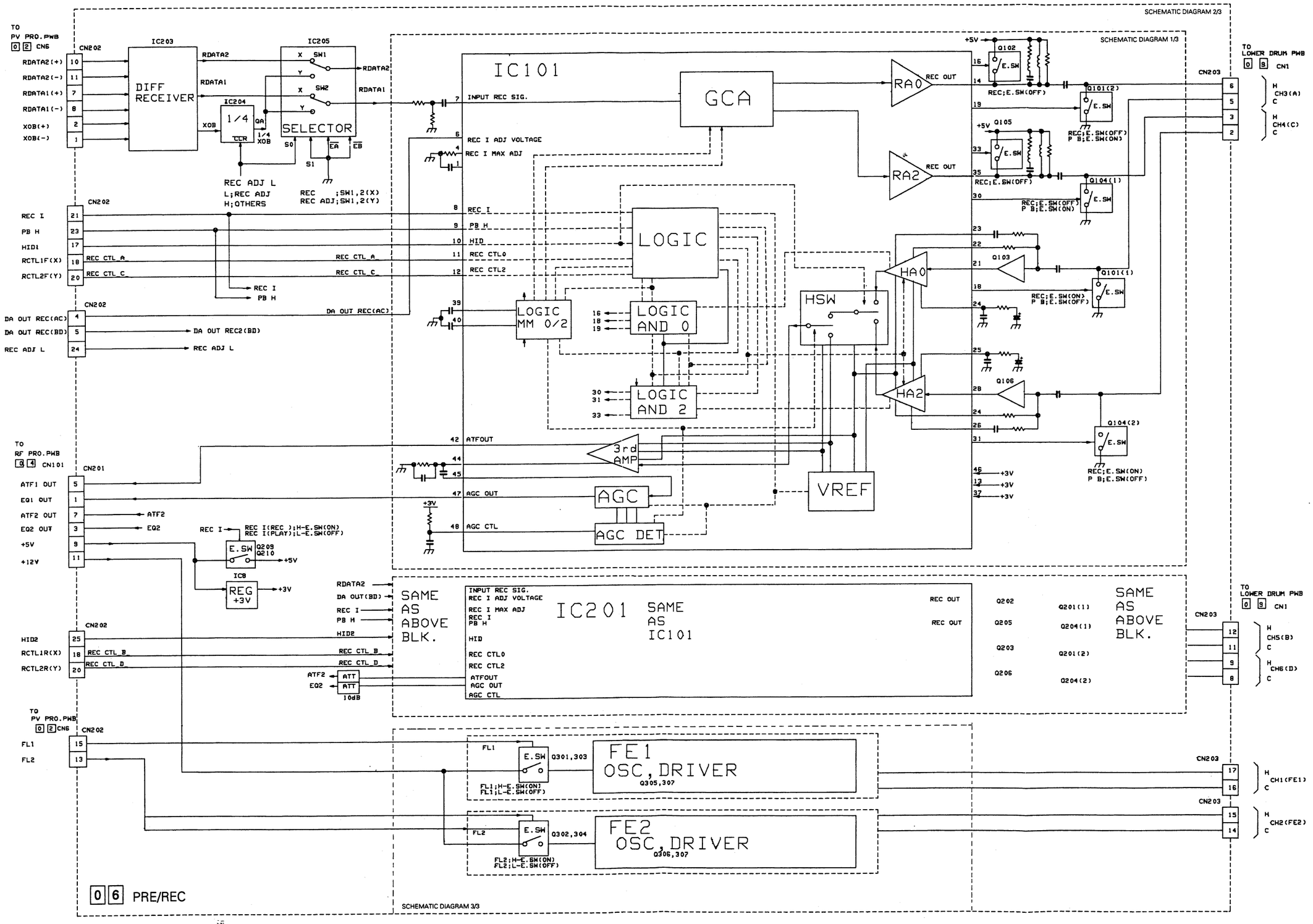
SCHEMATIC DIAGRAM 7/7



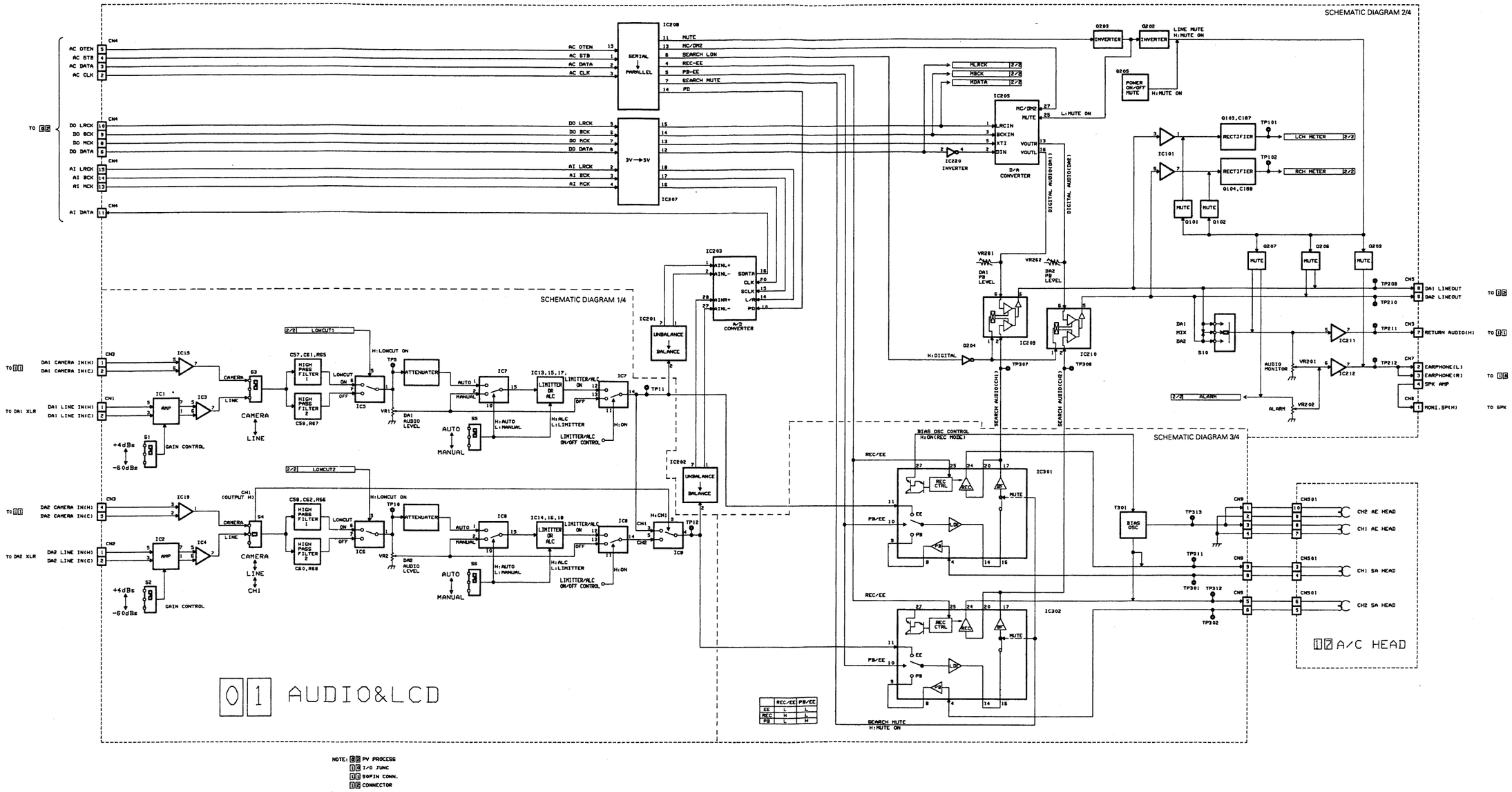
4.8 RFP BLOCK DIAGRAM



4.9 PRE/REC BLOCK DIAGRAM

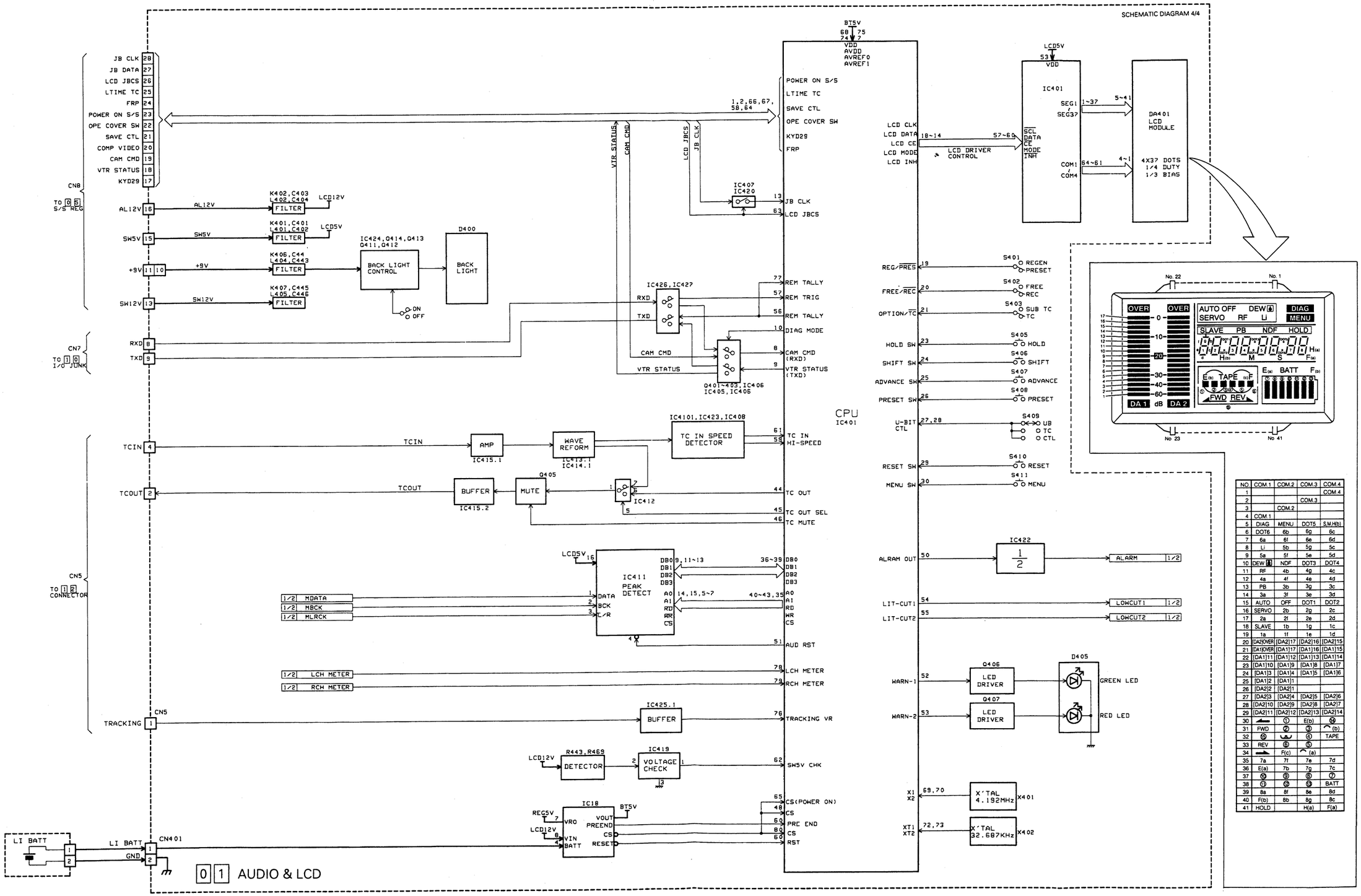


4.10 AUDIO BLOCK DIAGRAM



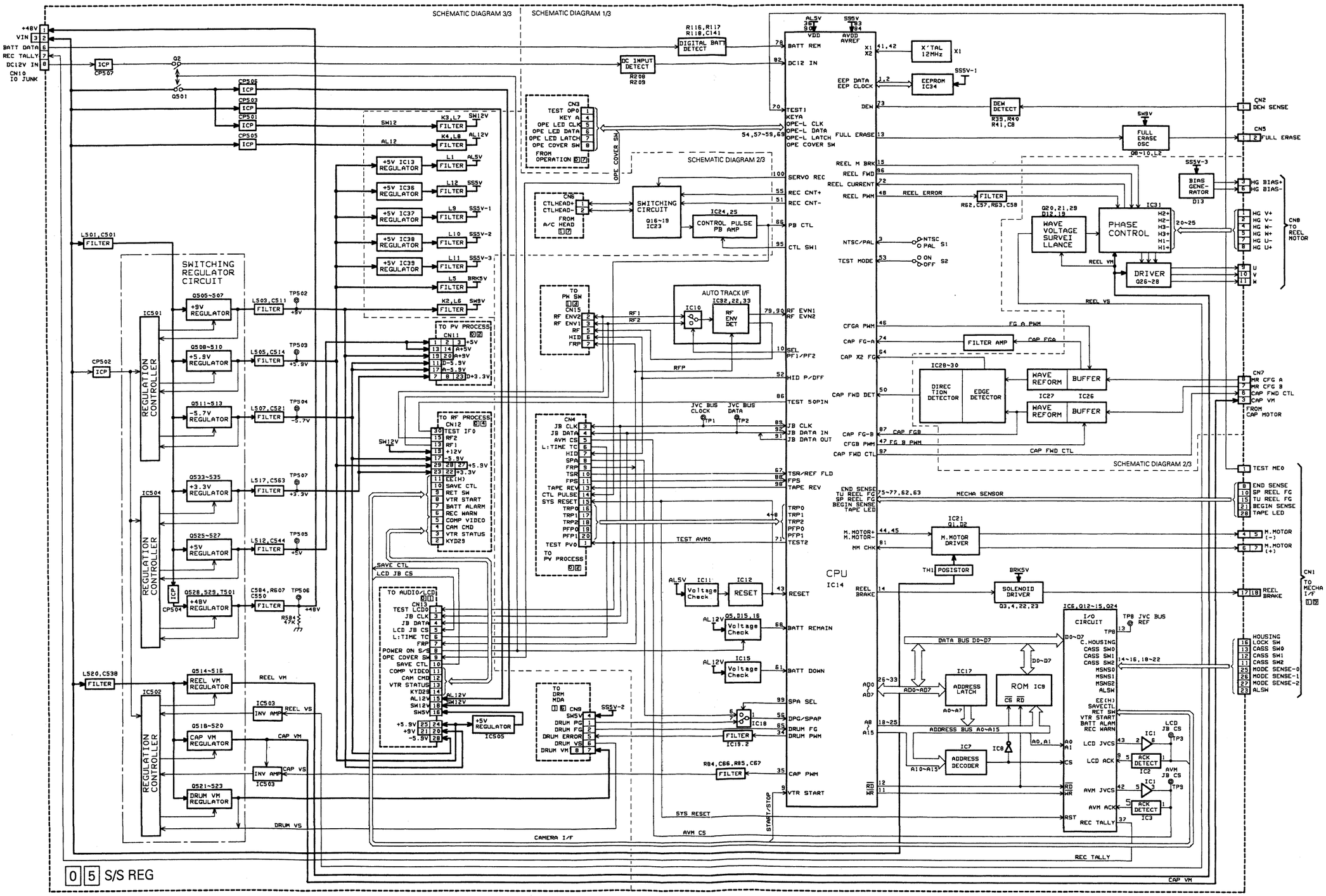
4-12

4.11 LCD BLOCK DIAGRAM



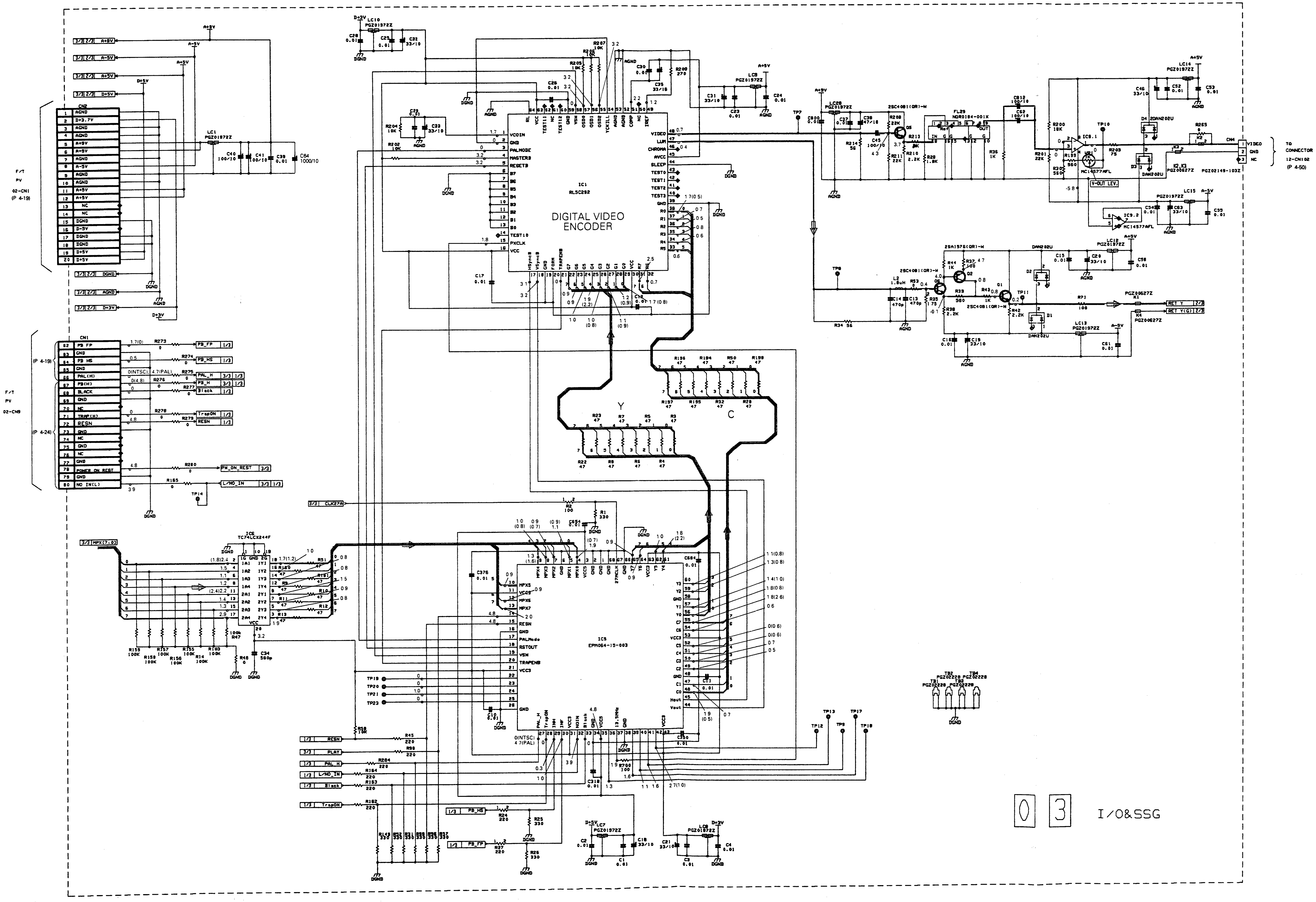
NO.	COM.1	COM.2	COM.3	COM.4
1				COM.4
2			COM.3	
3		COM.2		
4	COM.1			
5	DIAG	MENU	DOT5	S.M.H(b)
6	DOT6	6b	6g	6c
7	6a	6f	6e	6d
8	Li	5b	5g	5c
9	5a	5f	5e	5d
10	DEW	NDF	DOT3	DOT4
11	RF	4b	4g	4c
12	4a	4f	4e	4d
13	PB	3b	3g	3c
14	3a	3f	3e	3d
15	AUTO	OFF	DOT1	DOT2
16	SERVO	2b	2g	2c
17	2a	2f	2e	2d
18	SLAVE	1b	1g	1c
19	1a	1f	1e	1d
20	DA2 OVER	[DA2]17	[DA2]16	[DA2]15
21	DA1 OVER	[DA1]17	[DA1]16	[DA1]15
22	[DA1]11	[DA1]12	[DA1]13	[DA1]14
23	[DA1]10	[DA1]9	[DA1]8	[DA1]7
24	[DA1]3	[DA1]4	[DA1]5	[DA1]6
25	[DA1]2	[DA1]1		
26	[DA2]2	[DA2]1		
27	[DA2]3	[DA2]4	[DA2]5	[DA2]6
28	[DA2]10	[DA2]9	[DA2]8	[DA2]7
29	[DA2]11	[DA2]12	[DA2]13	[DA2]14
30		①	E(b)	㉔
31	FWD	㉒	③	(b)
32	㉕		④	TAPE
33	REV	㉓	⑤	
34		F(c)	(a)	
35	7a	7f	7e	7d
36	E(a)	7b	7g	7c
37	㉖	⑩	⑧	⑦
38	⑪	⑫	⑨	BATT
39	8a	8f	8e	8d
40	F(b)	8b	8g	8c
41	HOLD		H(a)	F(a)

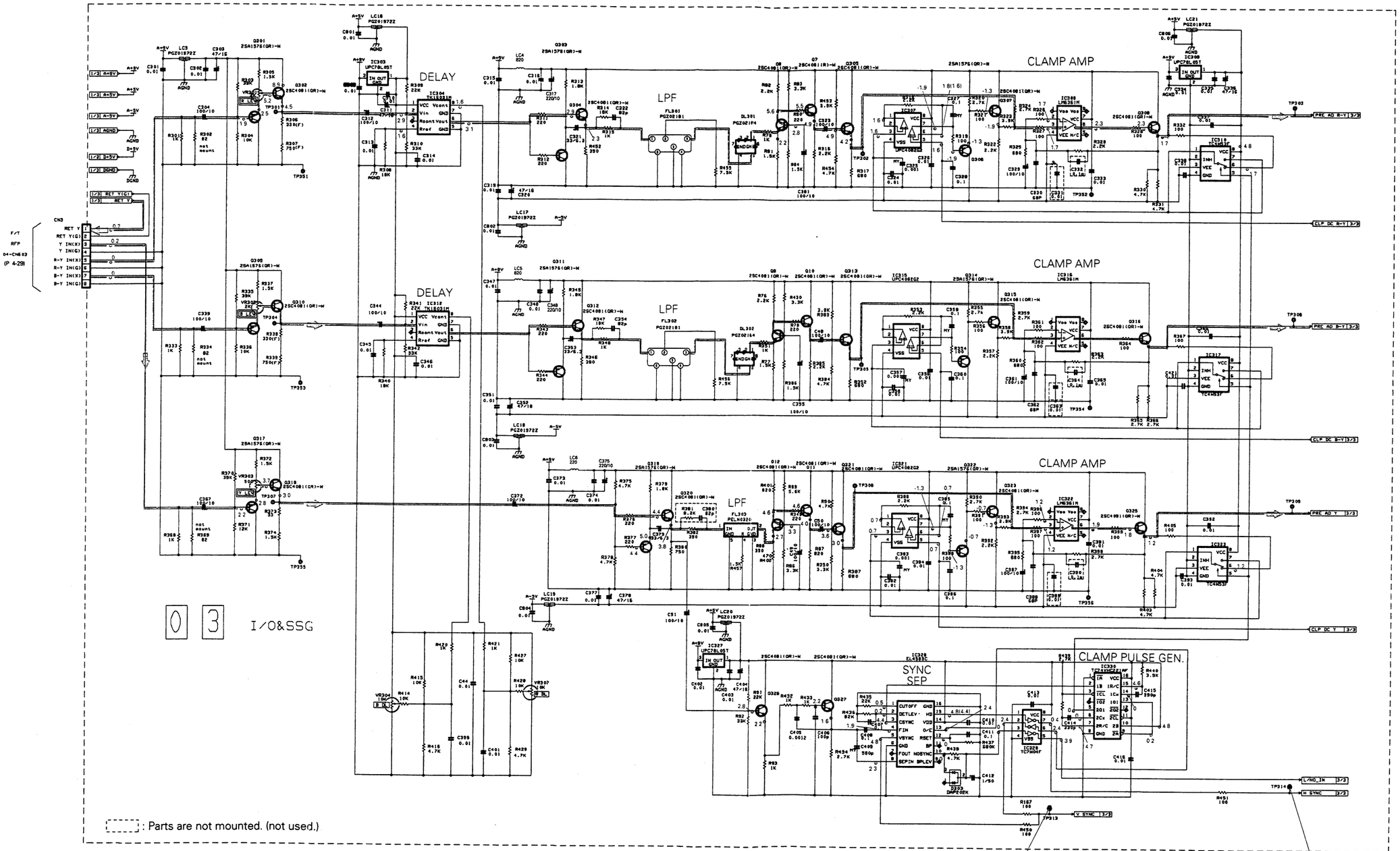
4.12 SYSCON/SERVO BLOCK DIAGRAM



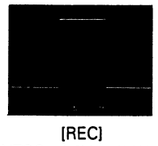
4-14

4.13 I/O SSG SCHEMATIC DIAGRAM 03
— DIAGRAM 1/3 —



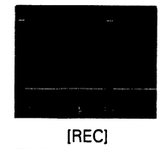


TP313



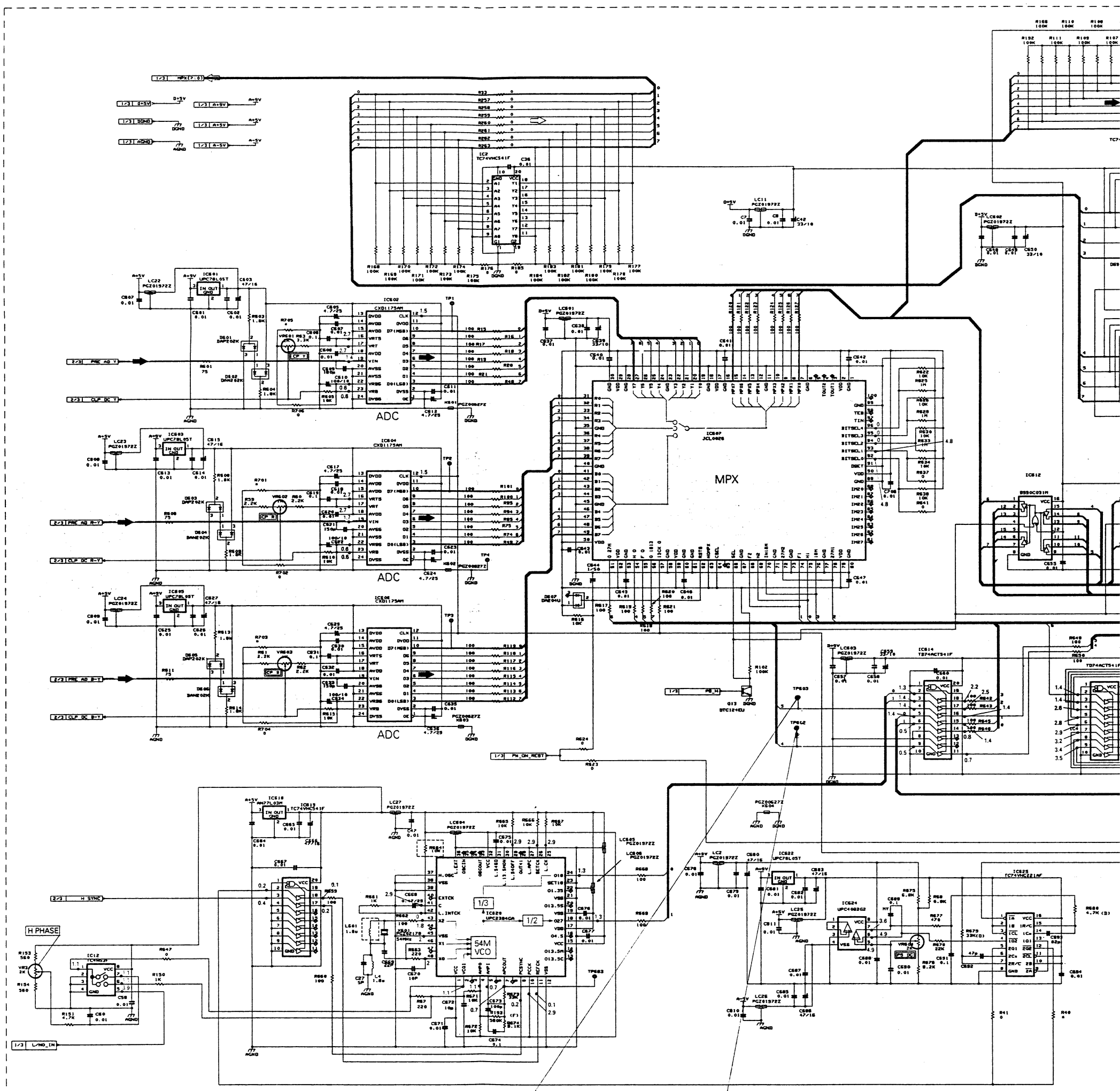
[REC]
NTSC : 4.8Vp-p/30Hz
PAL : 4.8Vp-p/25Hz

TP314

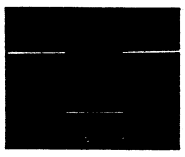


[REC]
NTSC : 4.8Vp-p/15.7Hz
PAL : 4.8Vp-p/15.6Hz

— DIAGRAM 3/3 —



TP603

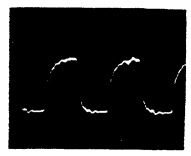


[REC]
NTSC : 3.4Vp-p/30Hz
PAL : 3.4Vp-p/25Hz

TP602

[REC]
NTSC : 3.4Vp-p/15.7Hz
PAL : 3.4Vp-p/15.6Hz

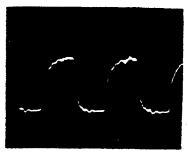
TP604



[REC]
3 Vp-p/13.5 MHz

SSG

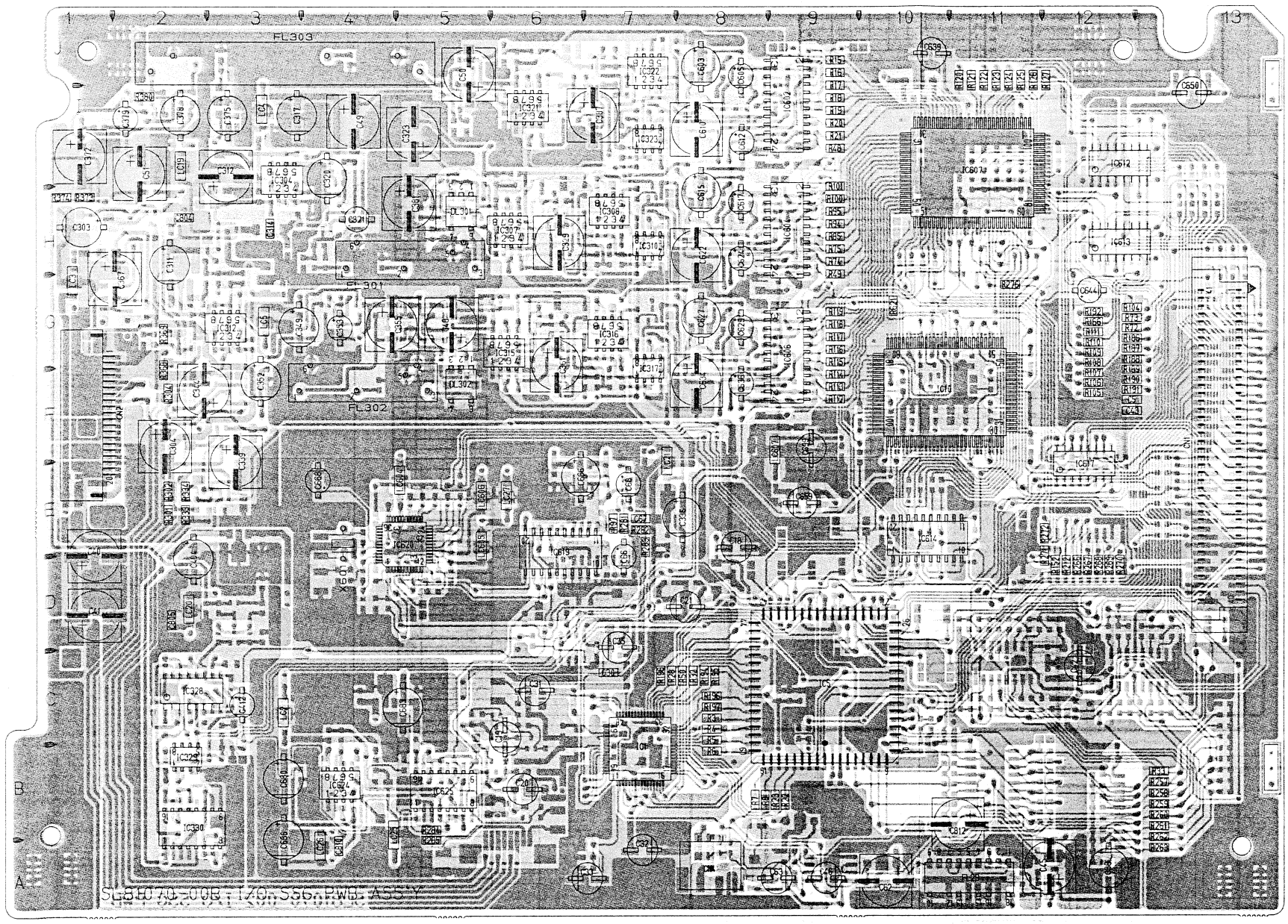
TP604

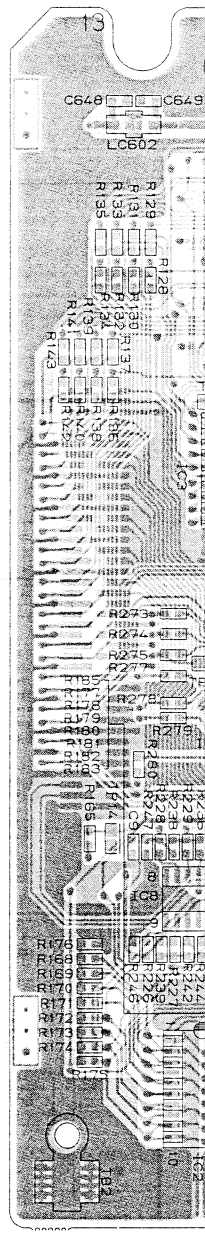


[REC]
3 Vp-p/13.5 MHz

4.14 I/O SSG CIRCUIT BOARD

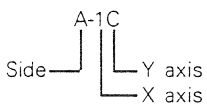
— SIDE A —





●ADDRESS TABLE OF BOARD PARTS

Each address may have an address error by one interval.



IC1	A- 7C	Q11	B- 5J	R12	B- 11C	R68	B- 5B	R124	A- 11J	R180	B- 12B	R236	B- 12D	R305	B- 3G	R361	B- 6G	R435	B- 2C	R660	B- 6E
IC2	B- 12C	Q12	B- 5J	R13	B- 11C	R69	B- 11G	R125	A- 11J	R181	B- 12B	R237	B- 12D	R306	B- 2G	R362	B- 7G	R436	B- 2C	R661	B- 4E
IC3	B- 12G	Q13	B- 11H	R14	B- 10B	R70	B- 11G	R126	A- 11J	R182	B- 12B	R238	B- 13D	R307	B- 2G	R363	B- 7G	R437	B- 2D	R662	B- 4E
IC4	B- 11E	Q301	B- 2G	R15	A- 9J	R71	B- 6B	R127	A- 11J	R183	B- 12B	R239	B- 13C	R308	B- 3I	R364	B- 7H	R438	B- 2D	R663	B- 4E
IC5	A- 9D	Q302	B- 2G	R16	A- 9J	R72	A- 12G	R128	B- 13I	R184	B- 12B	R240	B- 12C	R309	B- 3I	R365	B- 7G	R439	B- 2B	R664	B- 4E
IC6	B- 11C	Q303	B- 4I	R17	A- 9J	R73	A- 12H	R129	B- 13I	R185	B- 12C	R241	B- 12D	R310	B- 3I	R366	B- 7G	R440	B- 2B	R665	B- 4F
IC7	B- 11D	Q304	B- 4I	R18	A- 9J	R74	A- 9H	R130	B- 13I	R186	A- 12G	R242	B- 12C	R311	B- 4I	R367	B- 7G	R450	B- 2C	R666	B- 5F
IC8	B- 12D	Q305	B- 6I	R19	A- 9J	R75	A- 9H	R131	B- 13I	R187	A- 12G	R243	B- 12C	R312	B- 4I	R368	A- 2G	R451	B- 2C	R667	B- 5F
IC9	B- 9B	Q306	B- 6I	R20	A- 9J	R76	B- 5H	R132	B- 13I	R188	A- 12G	R244	B- 12C	R313	B- 4I	R369	A- 2G	R452	B- 3H	R668	B- 5F
IC10	A- 10G	Q307	B- 6H	R21	A- 9J	R77	B- 4G	R133	B- 13I	R189	A- 12G	R245	B- 12C	R314	B- 3H	R370	B- 1H	R453	B- 5I	R669	B- 5F
IC11	B- 6E	Q308	B- 7I	R22	A- 8B	R78	B- 5G	R134	B- 13I	R190	A- 12G	R246	B- 13C	R315	B- 3H	R371	B- 1H	R454	B- 5I	R671	B- 4E
IC12	B- 6D	Q309	B- 2F	R23	A- 8B	R79	B- 5I	R135	B- 13I	R191	A- 12G	R247	B- 13D	R316	B- 5H	R372	B- 2H	R455	B- 4H	R672	B- 4E
IC303	B- 2H	Q310	B- 2F	R24	B- 9D	R80	B- 5I	R136	B- 13H	R192	A- 12H	R248	B- 12D	R317	B- 6H	R373	A- 1I	R456	B- 4G	R673	B- 4E
IC304	A- 3I	Q311	B- 4H	R25	B- 9D	R81	B- 5I	R137	B- 13H	R193	B- 5E	R249	B- 11C	R318	B- 5I	R374	A- 1I	R457	B- 4J	R674	B- 5E
IC307	A- 5I	Q312	B- 4H	R26	B- 9D	R82	B- 5I	R138	B- 13H	R194	A- 8D	R250	B- 10C	R319	B- 6I	R375	B- 2J	R601	B- 8J	R675	B- 4C
IC308	A- 6I	Q313	B- 6H	R27	B- 9D	R83	B- 5I	R139	B- 13H	R195	A- 8D	R251	B- 10D	R320	B- 6I	R376	B- 2J	R603	B- 8J	R676	B- 4C
IC309	B- 7F	Q314	B- 6G	R28	A- 7D	R84	B- 5H	R140	B- 13H	R196	A- 8D	R252	B- 11D	R321	B- 6I	R377	B- 1J	R604	B- 8J	R677	B- 4C
IC310	A- 7H	Q315	B- 6G	R29	B- 11B	R85	A- 9H	R141	B- 13H	R197	A- 8C	R253	B- 11C	R322	B- 6H	R378	B- 1J	R605	B- 9J	R678	B- 4B
IC312	A- 2H	Q316	B- 7H	R30	B- 9B	R86	B- 5J	R142	B- 13H	R198	A- 7D	R254	B- 11C	R323	B- 6H	R379	B- 2J	R606	B- 8I	R679	B- 5B
IC315	A- 5G	Q317	B- 1H	R31	B- 9D	R87	B- 5J	R143	B- 13H	R199	B- 9B	R255	B- 11D	R324	B- 6I	R380	A- 2J	R608	B- 8I	R680	B- 5C
IC316	A- 6G	Q318	B- 2I	R32	A- 7D	R88	B- 5J	R144	B- 10G	R200	B- 9B	R256	B- 11D	R325	B- 6I	R381	B- 2J	R609	B- 8I	R681	B- 9F
IC317	A- 7G	Q319	B- 1J	R33	A- 13C	R89	B- 5J	R145	B- 10G	R201	B- 9B	R257	A- 13C	R326	B- 6I	R382	B- 2J	R610	B- 9H	R682	B- 10G
IC321	A- 6J	Q320	B- 2J	R34	B- 6D	R90	B- 6J	R146	B- 10G	R202	B- 7C	R258	A- 13B	R327	B- 7H	R383	B- 5H	R611	B- 8G	R684	B- 11G
IC322	A- 7J	Q321	B- 6J	R35	B- 6C	R91	B- 2D	R147	B- 10G	R203	B- 8B	R259	A- 13B	R328	B- 7H	R384	B- 5H	R613	B- 8H	R685	B- 11G
IC323	A- 7J	Q322	B- 6J	R36	B- 10B	R92	B- 2D	R148	B- 11G	R204	B- 6B	R260	A- 13B	R329	B- 7I	R385	B- 5G	R614	B- 8H	R686	B- 10F
IC327	B- 3E	Q323	B- 6J	R37	B- 5C	R93	B- 3E	R149	B- 10D	R205	B- 7C	R261	A- 13B	R330	B- 7I	R386	B- 4H	R615	B- 9G	R687	B- 11F
IC328	A- 2D	Q325	B- 7J	R38	B- 5C	R94	A- 9I	R150	B- 6D	R206	B- 7C	R262	A- 13B	R331	B- 7H	R387	B- 6J	R616	B- 10I	R700	B- 9D
IC329	A- 2C	Q326	B- 3D	R39	B- 6C	R95	A- 9I	R151	B- 6D	R207	B- 7C	R263	A- 13B	R332	B- 7I	R388	B- 6J	R617	B- 10H	R701	B- 9H
IC330	A- 2B	Q327	B- 3D	R40	B- 5C	R96	B- 6E	R152	A- 11E	R208	B- 11A	R264	B- 10E	R333	A- 2F	R389	B- 6J	R618	B- 10H	R702	B- 9H
IC601	B- 8J			R41	B- 5B	R97	A- 7E	R153	B- 7D	R209	B- 7C	R265	B- 8B	R334	A- 2F	R390	B- 6J	R619	B- 10H	R703	B- 9G
IC602	A- 9I	D1	B- 5C	R42	B- 5C	R98	B- 10C	R154	B- 7D	R210	B- 11B	R266	A- 12E	R335	B- 2F	R391	B- 6J	R620	B- 10H	R704	B- 9G
IC603	B- 8I	D2	B- 6B	R43	B- 5C	R99	B- 10E	R155	B- 11B	R211	B- 11B	R267	A- 12E	R336	B- 2F	R392	B- 7J	R621	A- 10H	R705	B- 9J
IC604	A- 9H	D3	B- 8B	R44	B- 5C	R100	A- 9I	R156	B- 11B	R212	A- 12E	R268	A- 12E	R337	B- 2F	R393	B- 7J	R622	B- 11I	R706	B- 9J
IC605	B- 8H	D4	B- 8B	R45	B- 10C	R101	A- 9I	R157	B- 11B	R213	B- 11A	R269	A- 12E	R338	B- 3F	R394	B- 6J	R623	B- 10H		
IC606	A- 9G	D5	B- 7F	R46	B- 10C	R102	B- 11I	R158	B- 11C	R214	B- 7C	R270	A- 12E	R339	B- 3F	R395	B- 7J	R624	B- 10H	VR1	B- 8B
IC607	A- 11I	D303	B- 3D	R47	B- 10C	R103	B- 10B	R159	B- 11C	R215	B- 12F	R271	A- 11E	R340	B- 3G	R396	B- 7J	R625	B- 11I	VR3	B- 7D
IC612	A- 12I	D601	B- 8J	R48	A- 9I	R104	A- 12H	R160	B- 10C	R216	B- 11F	R272	A- 11E	R341	B- 2G	R397	B- 7J	R626	B- 11I	VR301	B- 2G
IC613	A- 12H	D602	B- 8J	R49	A- 9H	R105	A- 12G	R161	B- 10B	R217	B- 12F	R273	B- 13F	R342	B- 3G	R398	B- 7I	R629	B- 11I	VR302	B- 2F
IC614	A- 10E	D603	B- 8I	R50	A- 7D	R106	A- 12G	R162	B- 10D	R218	B- 12F	R274	B- 13F	R343	B- 3G	R399	B- 7J	R630	B- 11I	VR303	B- 1H
IC617	A- 11F	D604	B- 8I	R51	B- 10C	R107	A- 12G	R163	B- 9E	R219	B- 11D	R275	B- 13F	R344	B- 3G	R401	B- 5J	R633	B- 11I	VR304	B- 2I
IC618	B- 6F	D605	B- 8G	R52	B- 9D	R108	A- 12G	R164	B- 9D	R220	B- 11D	R276	A- 11H	R345	B- 4H	R402	B- 5J	R634	B- 11I	VR307	B- 2I
IC619	A- 6E	D606	B- 8G	R53	B- 6C	R109	A- 12G	R165	B- 13D	R221	B- 11C	R277	B- 13F	R346	B- 4H	R403	B- 7J	R637	B- 11I	VR601	B- 9J
IC620	A- 4E	D607	B- 10H	R54	B- 11D	R110	A- 12G	R166	A- 12H	R222	B- 11C	R278	B- 13E	R347	B- 4H	R404	B- 7I	R638	B- 11I	VR602	B- 9I
IC622	B- 4D	D608	B- 10G	R55	B- 11D	R111	A- 12G	R167	B- 2C	R223	B- 11C	R279	B- 13E	R348	B- 4H	R405	B- 7J	R641	B- 11I	VR603	B- 9G
IC624	A- 4C			R56	B- 10C	R112	A- 9G	R168	B- 13C	R224	B- 11C	R280	B- 13E	R349	B- 5J	R414	B- 2H	R642	B- 10F	VR604	B- 4B
IC625	A- 5C	R1	B- 9C	R57	B- 10C	R113	A- 9G	R169	B- 13C	R225	B- 12C	R281	A- 7E	R350	B- 5J	R415	B- 2H	R643	B- 10F		
		R2	B- 9C	R58	B- 10C	R114	A- 9G	R170	B- 13C	R226	B- 13C	R282	A- 7E	R351	B- 4G	R416	B- 3H	R645	B- 10F	C1	B- 8E
Q1	B- 5C	R3	A- 8C	R59	B- 9H	R115	A- 9G	R171	B- 13C	R227	B- 13C	R283	A- 7E	R352	B- 6G	R420	B- 2H	R646	B- 10F	C2	B- 8E
Q2	B- 5C	R4	A- 8C	R60	B- 9I	R116	A- 9G	R172	B- 13C	R228	B- 13D	R284	A- 5B	R353	B- 5G	R421	B- 3I	R647	B- 6D	C3	B- 7E
Q3	B- 7F	R5	A- 8C	R61	B- 9G	R117	A- 9G	R173	B- 13C	R229	B- 12D	R285	A- 5B	R354	B- 6G	R427	B- 3I	R649	B- 10E	C4	B- 7E
Q5	B- 11A	R6	A- 8C	R62	B- 9H	R118	A- 9H	R174	B- 13C	R230	B- 12D	R286	B- 6D	R355	B- 6G	R428	B- 3I	R650	B- 11E	C5	A- 12G
Q6	B- 6C	R7	A- 8B	R63	B- 9J	R119	A- 9H	R175	B- 13B	R231	B- 12D	R287	B- 2C	R356	B- 6G	R429	B- 3I	R655	B- 12F	C6	B- 11D
Q7	B- 5I	R8	A- 8B	R64	B- 6E	R120	A- 10J	R176	B- 13C	R232	B- 11C	R301	A- 2F	R357	B- 6G	R430	B- 5H	R656	B- 12F	C7	B- 11D
Q8	B- 5I	R9	B- 10B	R65	B- 6E	R121	A- 11J	R177	B- 12C	R233	B- 11C	R302	A- 2F	R358	B- 6G	R432	B- 3D	R657	B- 12F	C8	B- 11D
Q9	B- 5G	R10	B- 10B	R66	B- 6F	R122	A- 11J	R178	B- 12B	R234	B- 11D	R303	B- 3G	R359	B- 6H	R433	B- 3D	R658	B- 12F	C9	B- 13D
Q10	B- 5G	R11	B- 11B	R67	B- 4D	R123	A- 11J	R179	B- 12B	R235	B- 11D	R304	A- 2G	R360	B- 6G	R434	B- 2D	R659	B- 6E	C10	B- 10C

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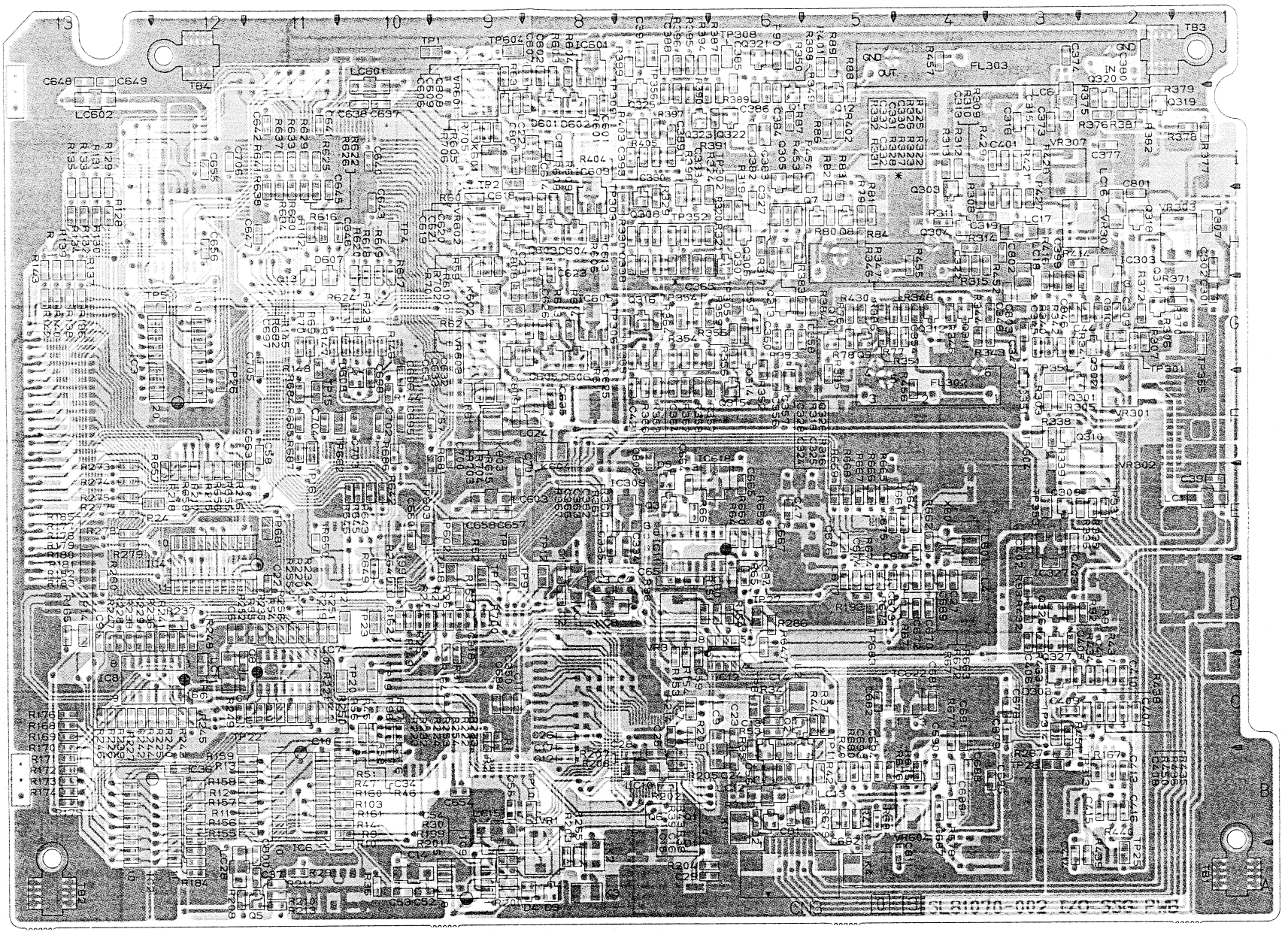
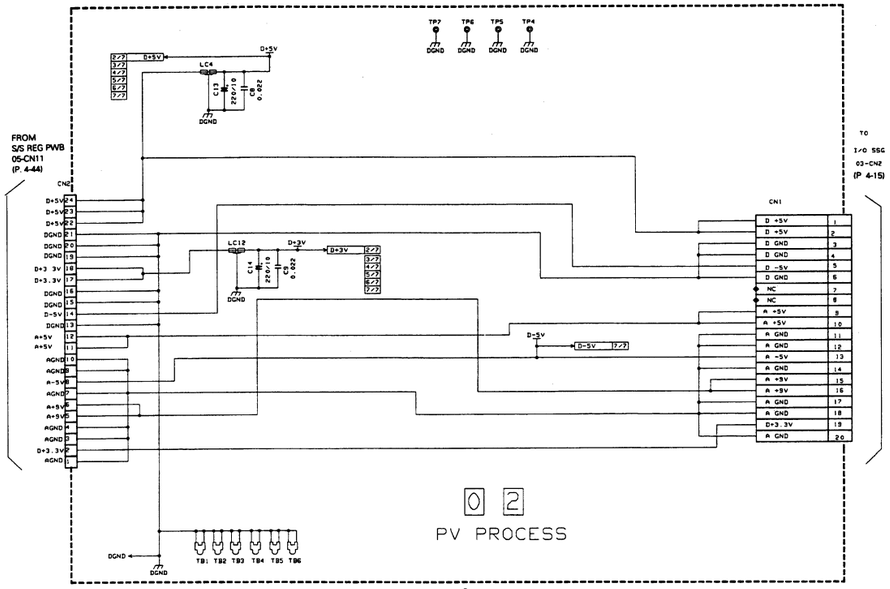


B5	B- 2C	R660	B- 6E	C11	B- 8D	C67	A- 7E	C363	B- 7G	C613	B- 7I	C676	B- 5E	TP5	B- 12H	K4	B- 5B		
B6	B- 2C	R661	B- 4E	C12	B- 8C	C68	A- 7F	C364	B- 7G	C614	B- 8I	C677	B- 5E	TP6	B- 12D	K601	B- 9I		
B7	B- 2D	R662	B- 4E	C13	B- 6C	C301	B- 1H	C365	B- 6H	C615	A- 8I	C678	B- 3C	TP7	B- 7C	K602	B- 9H		
B8	B- 2D	R663	B- 4E	C14	B- 6C	C302	B- 1H	C366	B- 7G	C617	A- 8I	C679	B- 3C	TP8	B- 6C	K603	B- 9G		
B9	B- 2B	R664	B- 4E	C15	B- 6C	C303	A- 1I	C367	A- 1H	C618	B- 8I	C680	A- 3C	TP9	B- 8E	K604	B- 8F		
40	B- 2B	R665	B- 4F	C16	B- 6C	C304	A- 2F	C372	A- 1I	C619	B- 9I	C681	B- 4D	TP10	B- 8B				
50	B- 2C	R666	B- 5F	C17	B- 8C	C309	B- 2H	C373	B- 3J	C620	B- 8I	C682	B- 5D	TP11	B- 5C	TB1	B- 1B		
51	B- 2C	R667	B- 5F	C18	A- 8E	C310	B- 2H	C374	B- 2J	C621	B- 8I	C683	A- 4C	TP12	B- 8E	TB2	B- 13B		
52	B- 3H	R668	B- 5F	C19	A- 5C	C311	A- 2H	C375	A- 3J	C622	A- 8H	C684	B- 9D	TP13	B- 8E	TB3	B- 1J		
53	B- 5I	R669	B- 5F	C20	A- 6C	C312	A- 3I	C376	B- 10C	C623	B- 8H	C685	B- 3C	TP14	B- 13D	TB4	B- 12J		
54	B- 5I	R671	B- 4E	C21	A- 7D	C313	B- 3I	C377	B- 2I	C624	A- 8H	C686	A- 3B	TP15	B- 11G				
55	B- 4H	R672	B- 4E	C22	B- 11E	C314	A- 3I	C378	A- 2J	C625	B- 7G	C687	B- 4B	TP16	B- 11F	LC1	B- 1F		
56	B- 4G	R673	B- 4E	C23	B- 6C	C315	B- 3J	C379	A- 1J	C626	B- 8H	C688	B- 4C	TP17	B- 9E	LC2	A- 3C		
57	B- 4J	R674	B- 5E	C24	B- 6C	C316	B- 3J	C380	B- 2J	C627	A- 8H	C689	B- 4C	TP18	B- 9E	LC3	A- 1H		
01	B- 8J	R675	B- 4C	C25	B- 7C	C317	A- 3J	C381	A- 4I	C629	A- 8H	C690	B- 4C	TP19	B- 10D	LC4	A- 3J		
03	B- 8J	R676	B- 4C	C26	B- 8C	C318	B- 9D	C382	B- 6J	C630	B- 8H	C691	B- 4C	TP20	B- 10D	LC5	A- 3H		
04	B- 8J	R677	B- 4C	C27	B- 4E	C319	B- 3I	C383	B- 6J	C631	B- 9G	C692	B- 5B	TP21	B- 10D	LC6	B- 2J		
05	B- 9J	R678	B- 4B	C28	B- 7C	C320	A- 4I	C384	B- 6J	C632	B- 8G	C693	B- 5C	TP22	B- 11C	LC7	B- 8E		
06	B- 8I	R679	B- 5B	C29	B- 6B	C321	A- 4I	C385	B- 6J	C633	B- 8G	C694	B- 5C	TP23	B- 10D	LC8	B- 7E		
08	B- 8I	R680	B- 5C	C30	A- 7D	C322	B- 4H	C386	B- 6J	C634	A- 8G	C695	B- 10G	TP24	B- 12F	LC9	B- 6C		
09	B- 8I	R681	B- 9F	C31	A- 6D	C323	A- 4J	C387	A- 6J	C635	B- 8G	C696	B- 10G	TP25	B- 2B	LC10	B- 7C		
10	B- 9H	R682	B- 10G	C32	A- 7B	C324	B- 6H	C388	B- 7J	C636	A- 8G	C697	B- 10G	TP26	B- 12G	LC11	B- 12D		
11	B- 8G	R684	B- 11G	C33	A- 6B	C325	B- 5H	C389	B- 7J	C637	B- 10J	C698	B- 10G	TP27	B- 6D	LC12	B- 6C		
13	B- 8H	R685	B- 11G	C34	B- 10C	C326	B- 5I	C390	B- 7I	C638	B- 10J	C699	A- 9F	TP28	B- 3C	LC13	B- 5B		
14	B- 8H	R686	B- 10F	C35	A- 7D	C327	B- 6I	C391	B- 7J	C639	A- 10J	C700	B- 9F	TP301	B- 2G	LC14	B- 10B		
15	B- 9G	R687	B- 11F	C36	B- 12C	C328	B- 6I	C392	B- 7J	C640	B- 10I	C701	B- 8F	TP302	B- 6I	LC15	B- 9B		
16	B- 10I	R700	B- 9D	C37	B- 11B	C329	A- 6H	C393	B- 7I	C641	B- 11J	C702	B- 10G	TP303	B- 7I	LC16	B- 2I		
17	B- 10H	R701	B- 9H	C38	A- 12B	C330	B- 7I	C399	B- 3H	C642	B- 11J	C703	B- 10G	TP304	B- 3F	LC17	B- 3I		
18	B- 10H	R702	B- 9H	C39	B- 1F	C331	B- 7I	C401	B- 3I	C643	B- 10I	C704	B- 10G	TP305	B- 6H	LC18	B- 3H		
19	B- 10H	R703	B- 9G	C40	A- 1E	C332	B- 7H	C402	B- 3E	C644	A- 12H	C705	B- 11G	TP306	B- 7H	LC19	A- 2I		
20	B- 10H	R704	B- 9G	C41	A- 1D	C333	B- 6I	C403	B- 2E	C645	B- 10I	C706	B- 11I	TP307	B- 1I	LC20	A- 2D		
21	A- 10H	R705	B- 9J	C42	A- 12D	C334	B- 7E	C404	A- 2E	C646	B- 10I	C800	B- 11B	TP308	B- 6J	LC21	A- 7F		
22	B- 11I	R706	B- 9J	C43	A- 12G	C335	B- 7E	C405	B- 2D	C647	B- 11I	C801	B- 2I	TP309	B- 7J	LC22	B- 8I		
23	B- 10H			C44	B- 2H	C336	A- 7E	C406	B- 3D	C648	B- 13J	C802	B- 3H	TP313	B- 2C	LC23	B- 8H		
24	B- 10H	VR1	B- 8B	C45	A- 11B	C337	B- 7I	C407	B- 2C	C649	B- 13J	C803	B- 3H	TP314	B- 3C	LC24	B- 8G		
25	B- 11I	VR3	B- 7D	C46	A- 9B	C338	B- 7H	C408	B- 2C	C650	A- 13J	C804	A- 2I	TP351	B- 3G	LC25	A- 4B		
26	B- 11I	VR301	B- 2G	C47	B- 5F	C339	A- 3F	C409	B- 2C	C654	B- 9C	C805	A- 2D	TP352	B- 7I	LC26	A- 3B		
29	B- 11I	VR302	B- 2F	C48	A- 5H	C344	A- 2G	C410	B- 2D	C655	B- 12I	C806	B- 7F	TP353	B- 3F	LC27	A- 5F		
30	B- 11I	VR303	B- 1H	C49	A- 4J	C345	B- 3G	C411	B- 2D	C656	B- 12H	C807	B- 8I	TP354	B- 7H	LC28	B- 11B		
33	B- 11I	VR304	B- 2I	C50	A- 5J	C346	B- 2H	C412	A- 3C	C657	B- 9F	C808	B- 8H	TP355	B- 1G	LC601	B- 10J		
34	B- 11I	VR307	B- 2I	C51	A- 2I	C347	B- 3G	C413	B- 2C	C658	B- 9F	C809	B- 8G	TP356	B- 7J	LC602	B- 13J		
37	B- 11I	VR601	B- 9J	C52	B- 9B	C348	B- 3H	C414	B- 2B	C659	A- 9F	C810	A- 4B	TP602	B- 9E	LC603	B- 9F		
38	B- 11I	VR602	B- 9I	C53	B- 10B	C349	A- 3H	C415	B- 2B	C660	B- 10E	C811	B- 4B	TP603	B- 9E	LC604	A- 4F		
41	B- 11I	VR603	B- 9G	C54	B- 9B	C350	B- 9D	C416	B- 2B	C663	B- 11F	C812	A- 10B	TP604	B- 8J	LC605	A- 5E		
42	B- 10F	VR604	B- 4B	C55	B- 8B	C351	B- 3G	C421	B- 7G	C664	B- 7F			TP681	B- 11E	LC606	A- 5F		
43	B- 10F			C56	B- 6C	C352	A- 3G	C601	B- 7J	C665	B- 6F	L2	B- 5D	TP682	B- 10G	LC607	A- 8F		
45	B- 10F	C1	B- 8E	C57	B- 9G	C353	A- 4H	C602	B- 8J	C666	A- 6F	L4	B- 3E	TP683	B- 5D				
46	B- 10F	C2	B- 8E	C58	B- 11F	C354	B- 4G	C603	A- 8J	C667	B- 6E	L601	B- 3E			FL29	A- 11B		
47	B- 6D	C3	B- 7E	C59	B- 6D	C355	A- 4H	C605	A- 8J	C668	A- 3F			CN1	A- 13F	FL301	A- 4H		
49	B- 10E	C4	B- 7E	C60	B- 6D	C356	B- 6G	C606	B- 9J	C669	B- 4E	DL301	A- 5I	CN2	A- 1G	FL302	A- 3G		
50	B- 11E	C5	A- 12G	C61	B- 5B	C357	B- 5G	C607	B- 8J	C670	B- 4D	DL302	A- 5G	CN3	B- 5B	FL303	A- 2J		
55	B- 12F	C6	B- 11D	C62	A- 10B	C358	B- 5G	C608	B- 8J	C671	B- 4E			CN4	A- 8A				
56	B- 12F	C7	B- 11D	C63	A- 8B	C359	B- 6H	C609	B- 8J	C672	B- 4D	TP1	B- 9J			X601	A- 4E		
57	B- 12F	C8	B- 11D	C64	B- 6E	C360	B- 6G	C610	A- 8J	C673	B- 4E	TP2	B- 8I	K1	B- 6B				
58	B- 12F	C9	B- 13D	C65	B- 7E	C361	A- 6G	C611	B- 8I	C674	B- 5E	TP3	B- 8H	K2	B- 8B				
59	B- 6E	C10	B- 10C	C66	A- 7E	C362	B- 7G	C612	A- 8I	C675	B- 4E	TP4	B- 10I	K3	B- 8B				

4.15 PV PROCESS SCHEMATIC DIAGRAM 02

— DIAGRAM 1/7 —



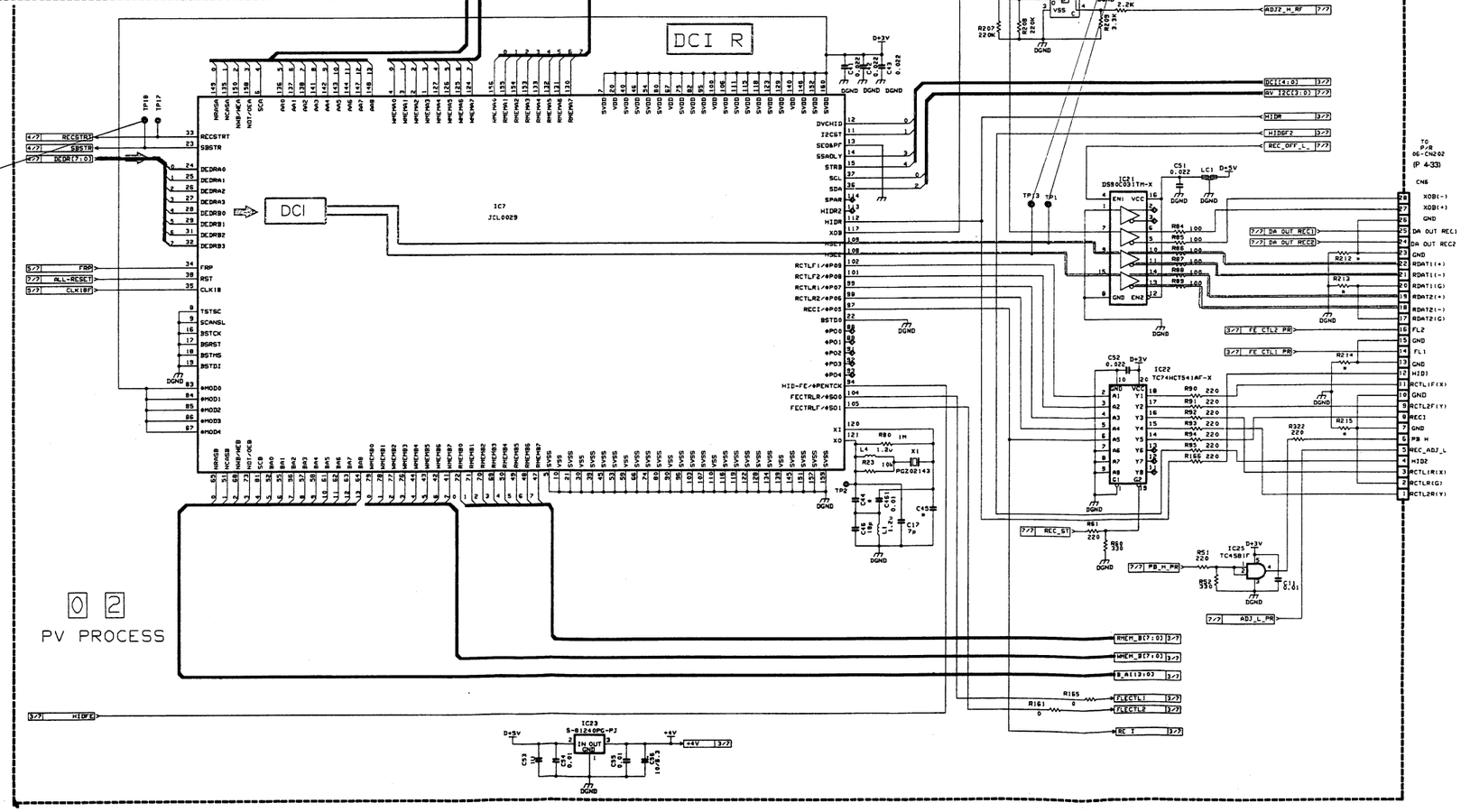
— DIAGRAM 2/7 —

TP18

[REC]
3.2 Vp-p

TP1/TP13

[REC]
3.2 Vp-p



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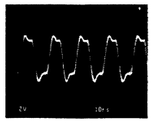
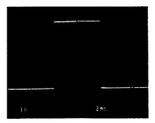


[PB]
5 Vp-p/50 MHz

TP14

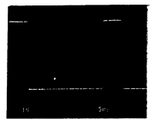
NTSC : 4.9Vp-p/15Hz
PAL : 4.9Vp-p/12.5Hz

TP15



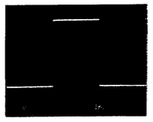
4.9 Vp-p/75 Hz

TP16



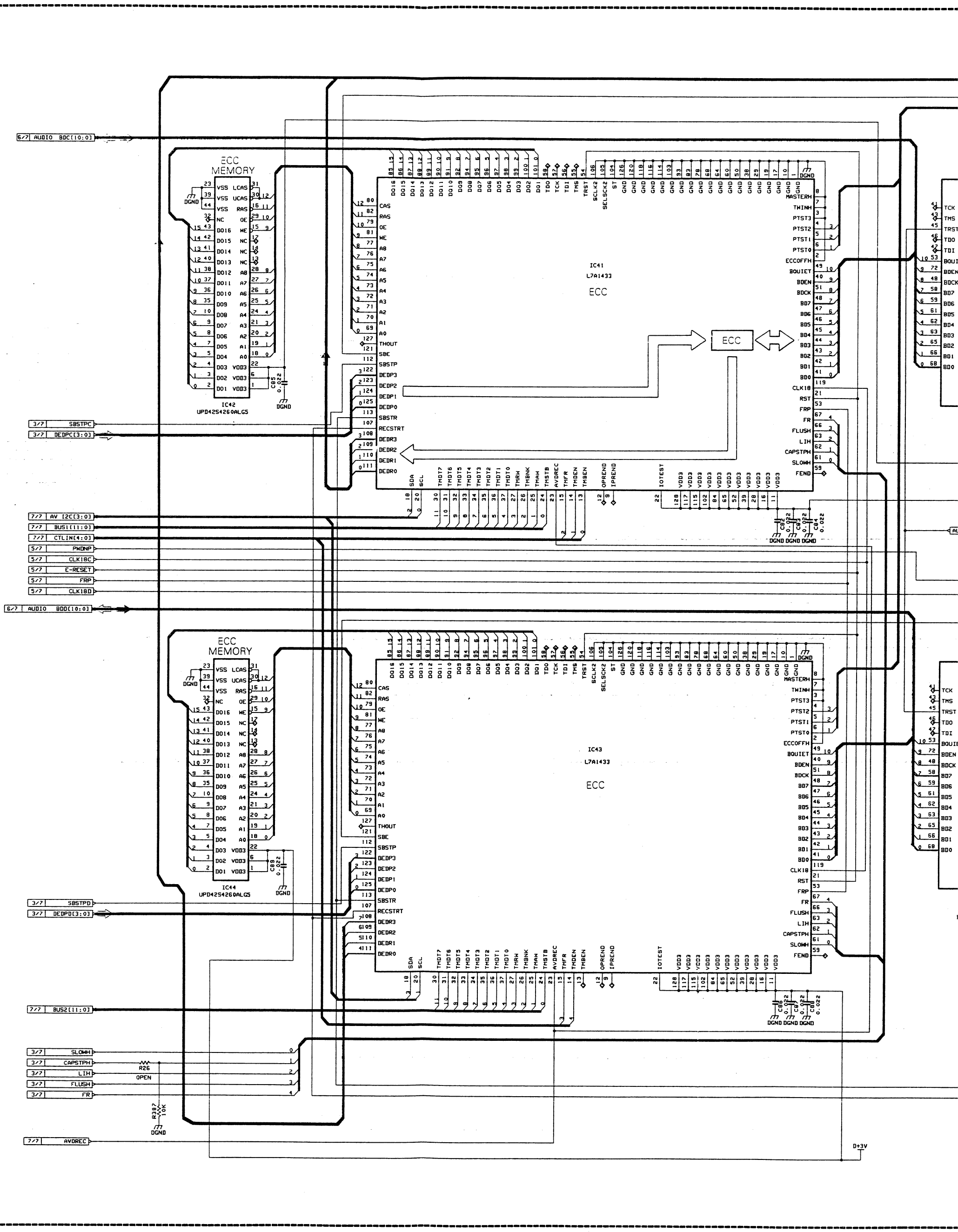
[PB]
NTSC : 4.9Vp-p/30Hz
PAL : 4.9Vp-p/25Hz

TP12



4.8 Vp-p

— DIAGRAM 4/7 —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UPD42S4260ALG5
IC41
L7A1433
ECC
ECC
3/7 SBSTPC
3/7 DEDPC[3:0]
7/7 AV I2C[3:0]
7/7 BUS1[11:0]
7/7 CTLIN[4:0]
5/7 PWDNP
5/7 CLK18C
5/7 E-RESET
5/7 FRP
5/7 CLK18D
6/7 AUDIO BDD[10:0]
ECC MEMORY
IC44
UPD42S4260ALG5
IC43
L7A1433
ECC
3/7 SBSTPD
3/7 DEDPD[3:0]
7/7 BUS2[11:0]
3/7 SLOWH
3/7 CAPSTPH
3/7 LIH
3/7 FLUSH
3/7 FR
R26
OPEN
R387
10K
7/7 AVDREC
D+3V
DGND
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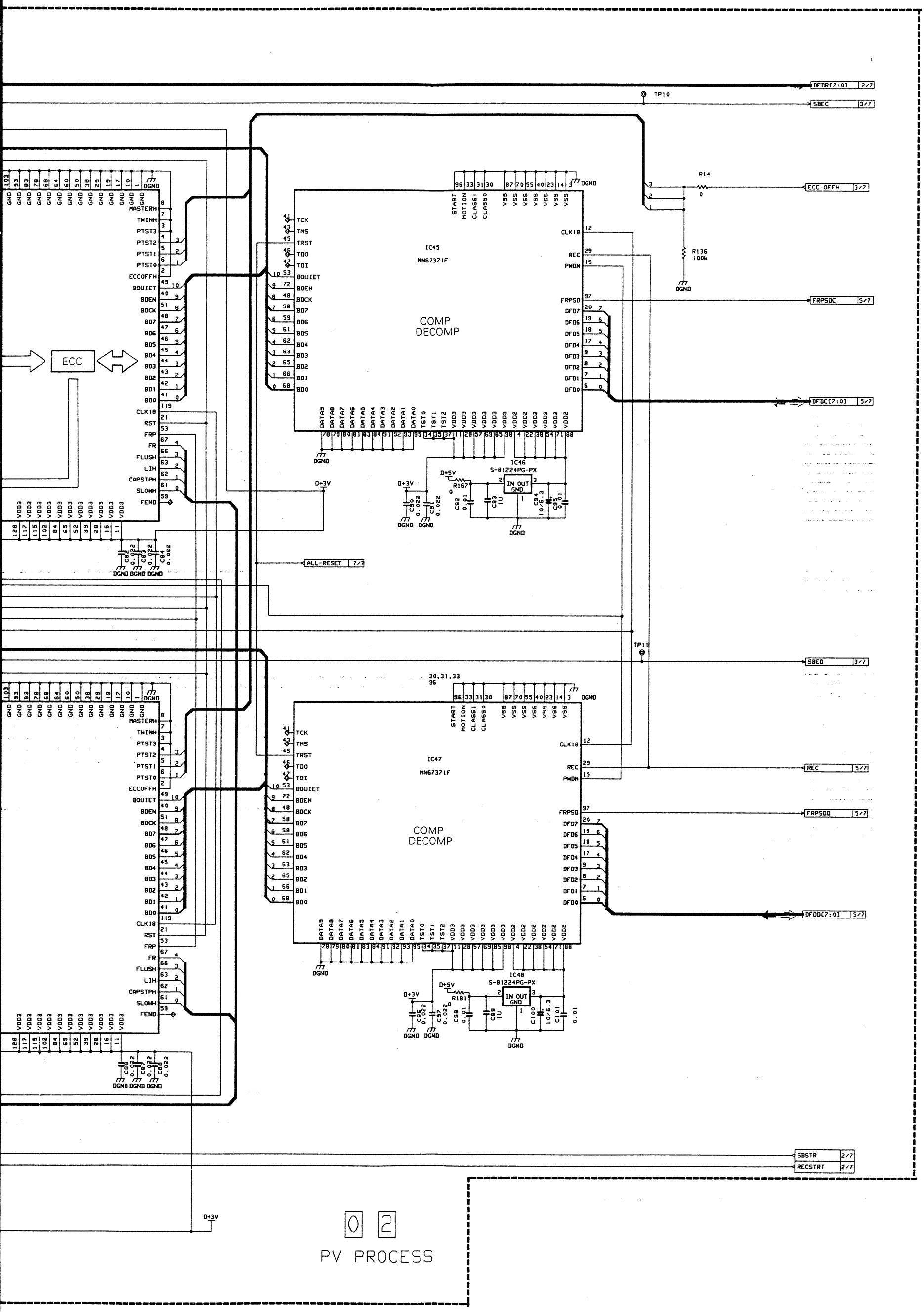
C82 0.022
C83 0.022
C84 0.022
C86 0.022
C87 0.022
C88 0.022


DEDR[7:0] 2/7
TP10
SBEC 3/7
R14
0
ECC OFFH 3/7
R136
100k
DGND
FRPSD 5/7
DFDC[7:0] 5/7
IC45
MN67371F
COMP
DECOMP
START
MOTION
CLASS1
CLASS0
VSS
CLK18
REC
PWDN
FRPSD
DFD7
DFD6
DFD5
DFD4
DFD3
DFD2
DFD1
DFD0
TCK
TMS
TRST
TDO
TDI
BQUIET
BDEN
BDCK
BD7
BD6
BD5
BD4
BD3
BD2
BD1
BD0
DATA9
DATA8
DATA7
DATA6
DATA5
DATA4
DATA3
DATA2
DATA1
DATA0
TST0
TST1
TST2
VDD3
VDD2
IC46
S-81224PG-PX
IN OUT
GND
D+5V
D+3V
R167
0
C86 0.022
C87 0.022
C92 0.01
C83 1U
C94 10/6.3
C95 0.01
ALL-RESET 7/7
TP11
SBED 3/7
30,31,33
96
IC47
MN67371F
REC 5/7
FRPSDD 5/7
DFDD[7:0] 5/7
IC48
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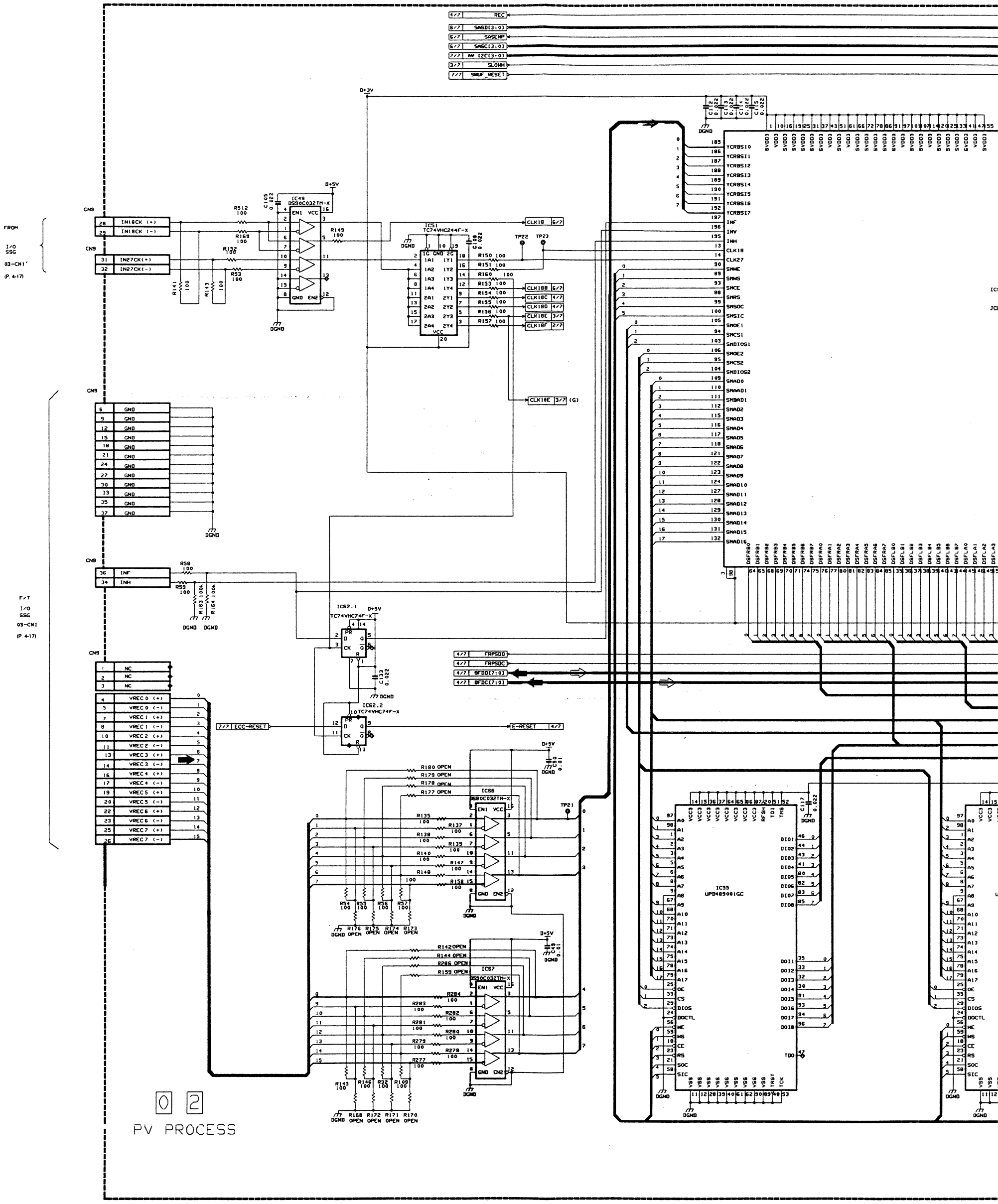
R181
C96 0.022
C97 0.022
C98 0.01
C89 1U
C100 10/6.3
C101 0.01
MASTERH
TWINH
PTST3
PTST2
PTST1
PTST0
ECCOFFH
ECC
RST
FRP
FR
FLUSH
LIH
CAPSTPH
SLOWH
FEND
C82 0.022
C83 0.022
C84 0.022
C85 0.022
C87 0.022
C88 0.022
SBSTR 2/7
RECSTRT 2/7
02
PV PROCESS

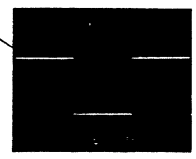

REC
SASD[3:0]
SASENP
SASC[3:0]
AV I2C[3:0]
SLOWH
SMUF_RESET
D+3V
D+5V
DGND
CN9
IN18CK (+)
IN18CK (-)
IN27CK(+)
IN27CK(-)
FROM I/O SSG 03-CN1' (P. 4-17)
IC49 DS90C032TM-X
IC51 TC74VHC244F-X
IC52.1 TC74VHC74F-X
IC52.2 TC74VHC74F-X
IC66 DS90C032TM-X
IC67 DS90C032TM-X
IC55 UPD489001GC
CLK18 6/7
CLK18E 3/7 (G)
TP22
TP23
TP21
ECC-RESET 7/7
E-RESET 4/7
FRPSDD 4/7
FRPSDC 4/7
DFDD[7:0] 4/7
DFDC[7:0] 4/7
INF
INH
NC
VREC0 (+)
VREC0 (-)
VREC1 (+)
VREC1 (-)
VREC2 (+)
VREC2 (-)
VREC3 (+)
VREC3 (-)
VREC4 (+)
VREC4 (-)
VREC5 (+)
VREC5 (-)
VREC6 (+)
VREC6 (-)
VREC7 (+)
VREC7 (-)
GND
F/T I/O SSG 03-CN1 (P. 4-17)
YCRBSI0
YCRBSI1
YCRBSI2
YCRBSI3
YCRBSI4
YCRBSI5
YCRBSI6
YCRBSI7
INF
INV
INH
CLK18
CLK27
SMWE
SMWS
SMCE
SMRS
SMSOC
SMSIC
SMOE1
SMCS1
SMDIOS1
SMOE2
SMCS2
SMDIOS2
SMAD0
SMAAD1
SMBAD1
SMAD2
SMAD3
SMAD4
SMAD5
SMAD6
SMAD7
SMAD8
SMAD9
SMAD10
SMAD11
SMAD12
SMAD13
SMAD14
SMAD15
SMAD16
DSFRB0
DSFRB1
DSFRB2
DSFRB3
DSFRB4
DSFRB5
DSFRB6
DSFRB7
DSFRA0
DSFRA1
DSFRA2
DSFRA3
DSFRA4
DSFRA5
DSFRA6
DSFRA7
DSFLB0
DSFLB1
DSFLB2
DSFLB3
DSFLB4
DSFLB5
DSFLB6
DSFLB7
DSFLA0
DSFLA1
DSFLA2
DSFLA3
DOCTL
ME
MS
CE
RS
SOC
SIC
DIOS
DIO1
DIO2
DIO3
DIO4
DIO5
DIO6
DIO7
DIO8
TDO
TMS
TDI
TCK
TRST
RFSH
VCC3
VSS
VDD
SVDD
SVSS
R512 100
R169 100
R149 100
R150 100
R151 100
R160 100
R153 100
R154 100
R155 100
R156 100
R157 100
R141 100
R143 100
R53 100
R58 100
R59 100
R163 100K
R164 100K
R180 OPEN
R179 OPEN
R178 OPEN
R177 OPEN
R135 100
R137 100
R138 100
R139 100
R140 100
R147 100
R148 100
R158 100
R34 100
R35 100
R36 100
R37 100
R176 OPEN
R175 OPEN
R174 OPEN
R173 OPEN
R142 OPEN
R144 OPEN
R286 OPEN
R159 OPEN
R284 100
R283 100
R282 100
R281 100
R280 100
R279 100
R278 100
R277 100
R143 100
R146 100
R22 100
R109 100
R168 OPEN
R172 OPEN
R171 OPEN
R170 OPEN
C105 0.022
C108 0.022
C133 0.022
C117 0.022
C12 0.022
C13 0.022
C14 0.022
C15 0.022
C50 0.01
C49 0.01
02
PV PROCESS

IC9

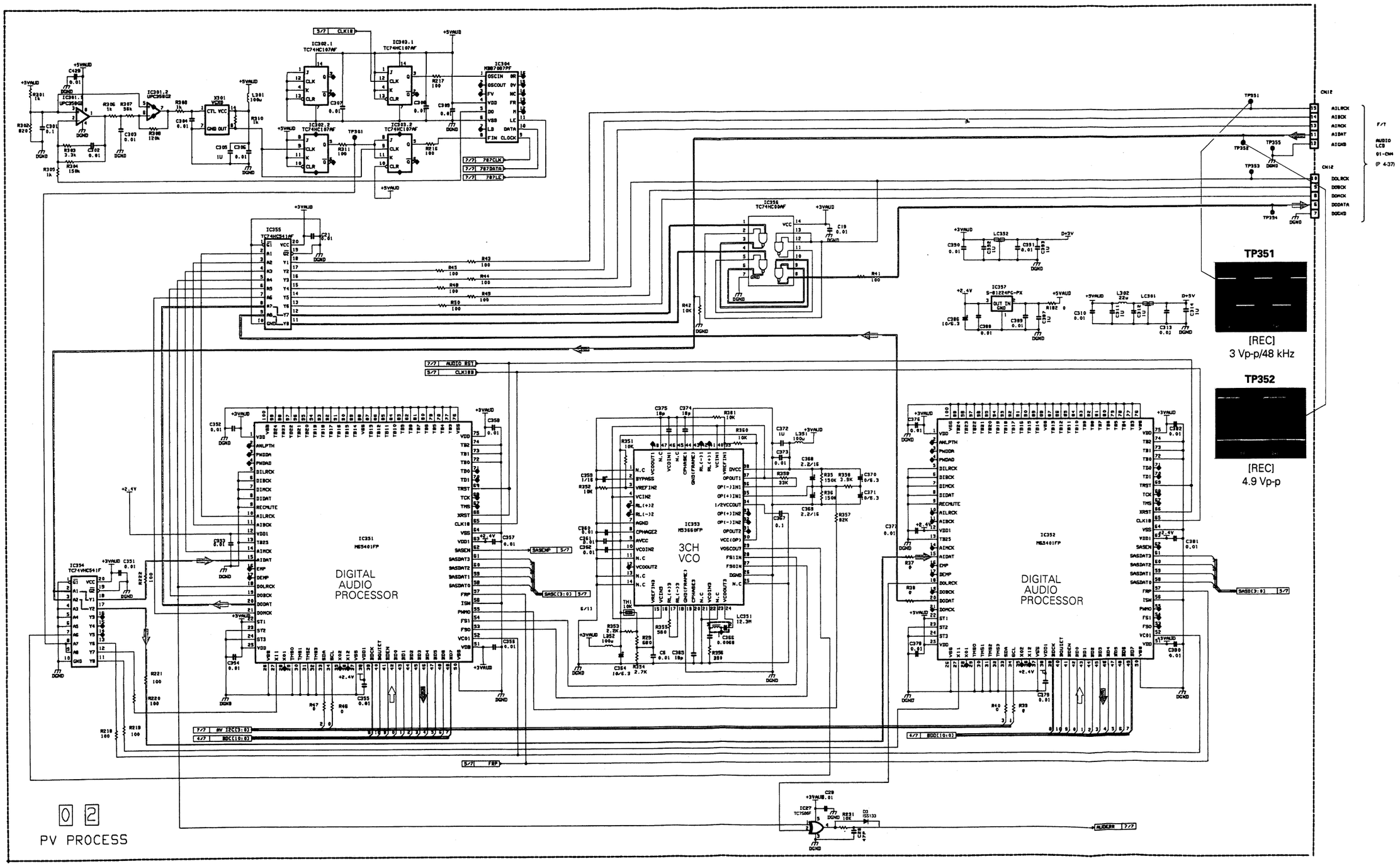
JCL0028

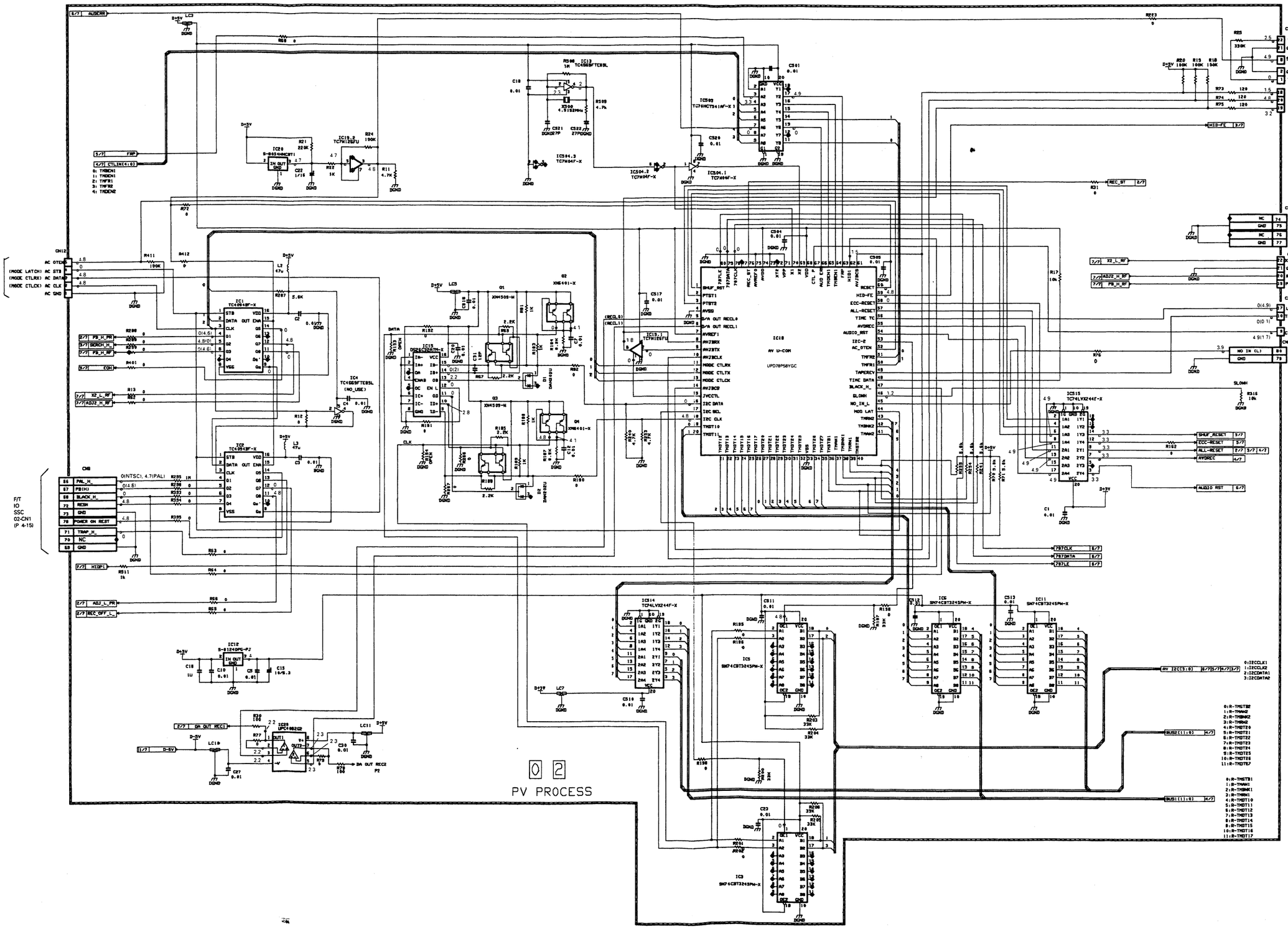
SHUFF MEMORY

TP3



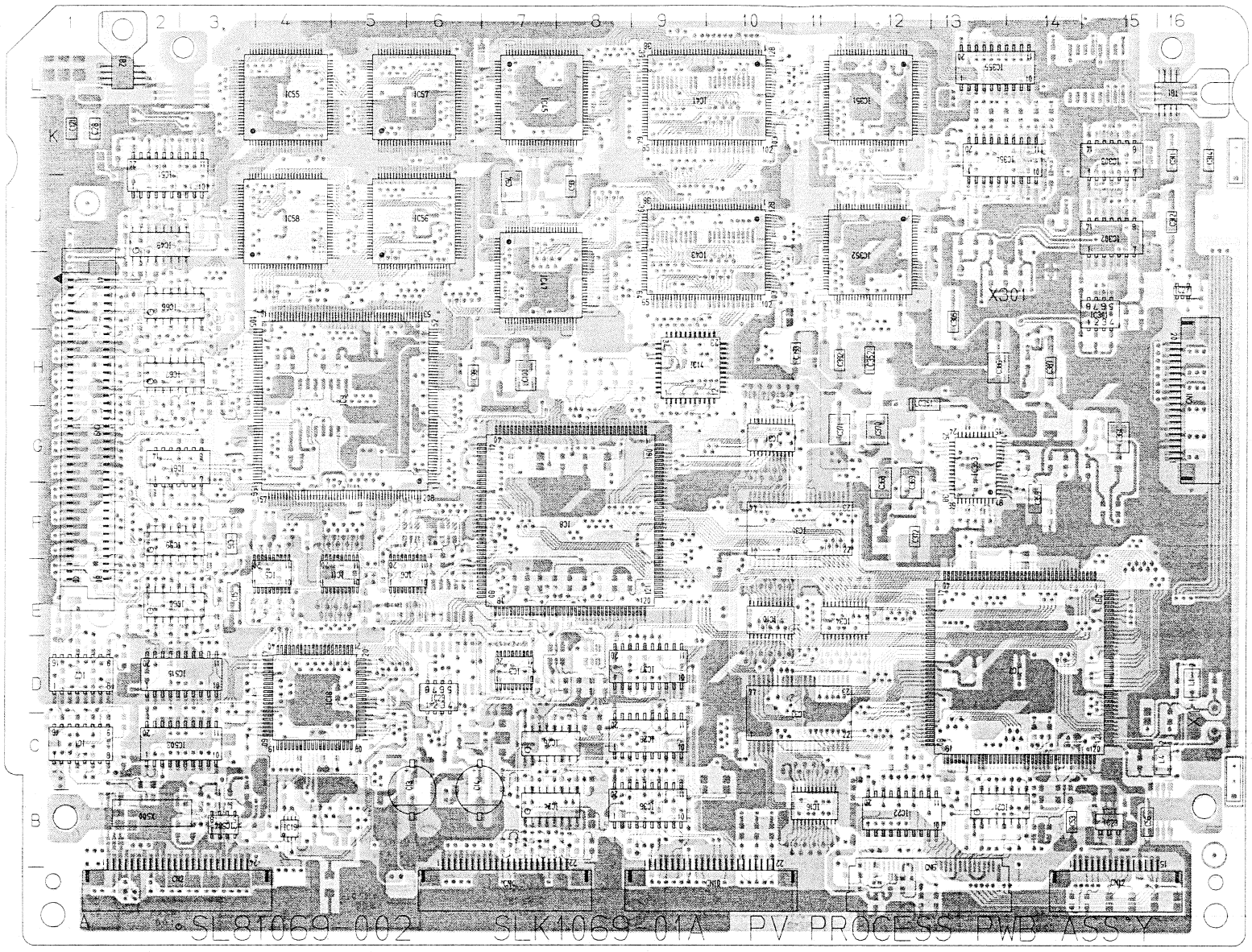
NTSC : 3.2Vp-p/30Hz
PAL : 3.2Vp-p/25Hz

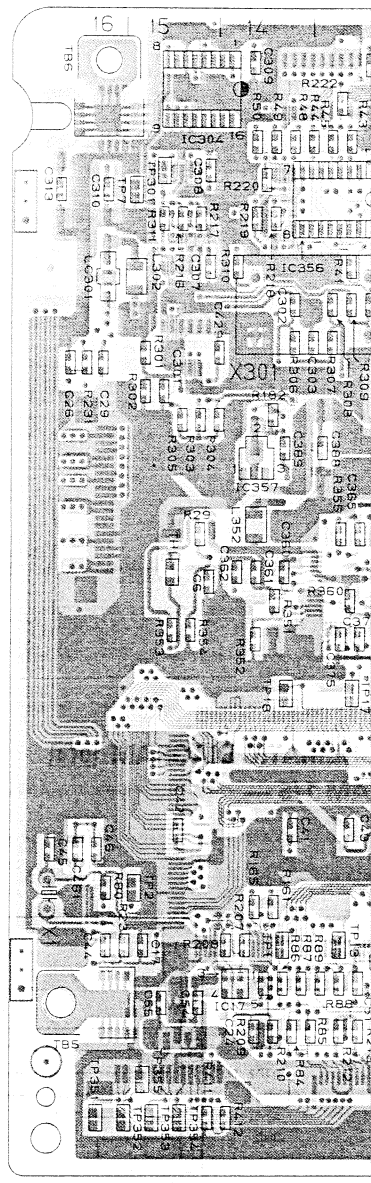

DIGITAL AUDIO PROCESSOR
IC351 M65401FP
3CH VCO
IC353 M52680FP
DIGITAL AUDIO PROCESSOR
IC352 M65401FP
TP351
[REC]
3 Vp-p/48 kHz
TP352
[REC]
4.9 Vp-p
AUDIO LCD 01-CN4 (P 4-37)
0 2
PV PROCESS


IC18
AV U-COM
UPD78P58YGC
IC1 TC4094BF-X
IC2 TC4094BF-X
IC15 DS26C32ATM-X
IC4 TC4S66FTE85L (NO_USE)
IC5 SN74CBT3245PM-X
IC11 SN74CBT3245PM-X
IC3 SN74CBT3245PM-X
IC514 TC74LVX244F-X
IC515 TC74LVX244F-X
IC12 S-81240PG-PJ
IC19.1 TC7W126FU
IC19.2 TC7W126FU
IC20 S-8054AACBT-I
IC503 TC74HCT541AF-X
IC504.1 TC7W04F-X
IC504.2 TC7W04F-X
IC504.3 TC7W04F-X
IC13 TC4S66FTE85L
X500 4.9152MHz
X501 27P
X502 27P
Q1 XN4309-M
Q2 XN6401-X
Q3 XN4309-M
Q4 XN6401-X
D1 DAN202U
D2 DAN202U
CN12 TO AUDIO LCD 01-CN4 (P. 4-37)
CN8 F/T IO SSC 02-CN1 (P. 4-15)
CN10 F/T S/S REG 05-CN14 (P. 4-42)
CN9 F/T I/O SSG 03-CN1
CN4 TO S/S REG 04-CN501 (P. 4-29)
CN10 FROM S/S REG 05-CN4 (P. 4-42)
CN8 F/T I/O SSG 03-CN1 (P. 4-15)
0 2
PV PROCESS

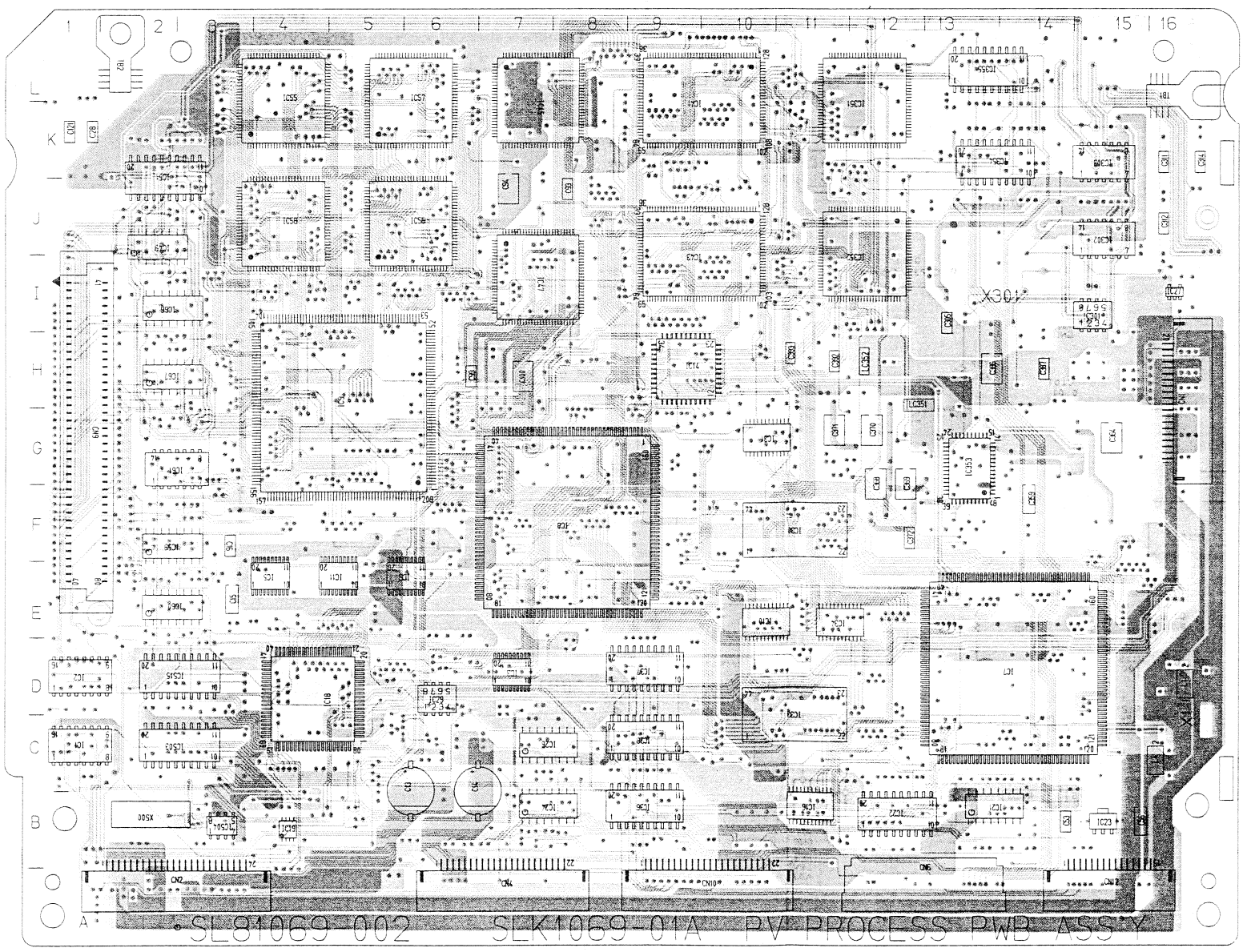
4.16 PV PROCESS CIRCUIT BOARD

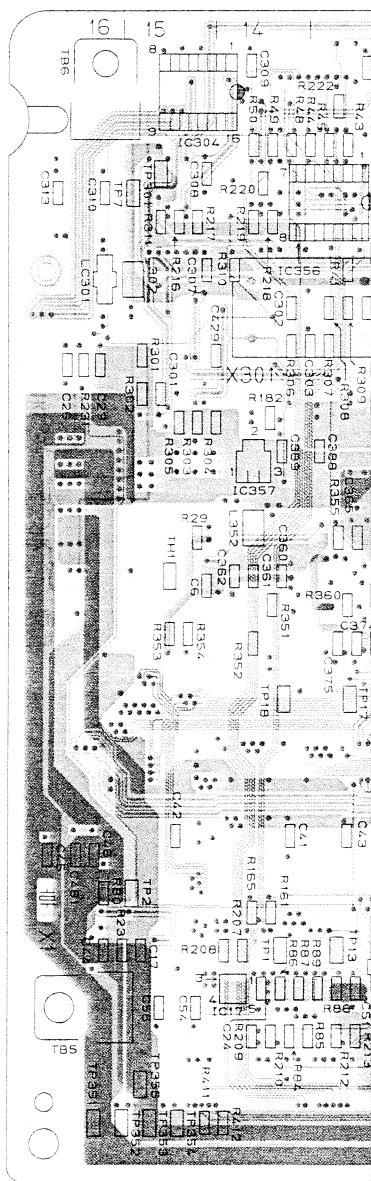
— SIDE A —



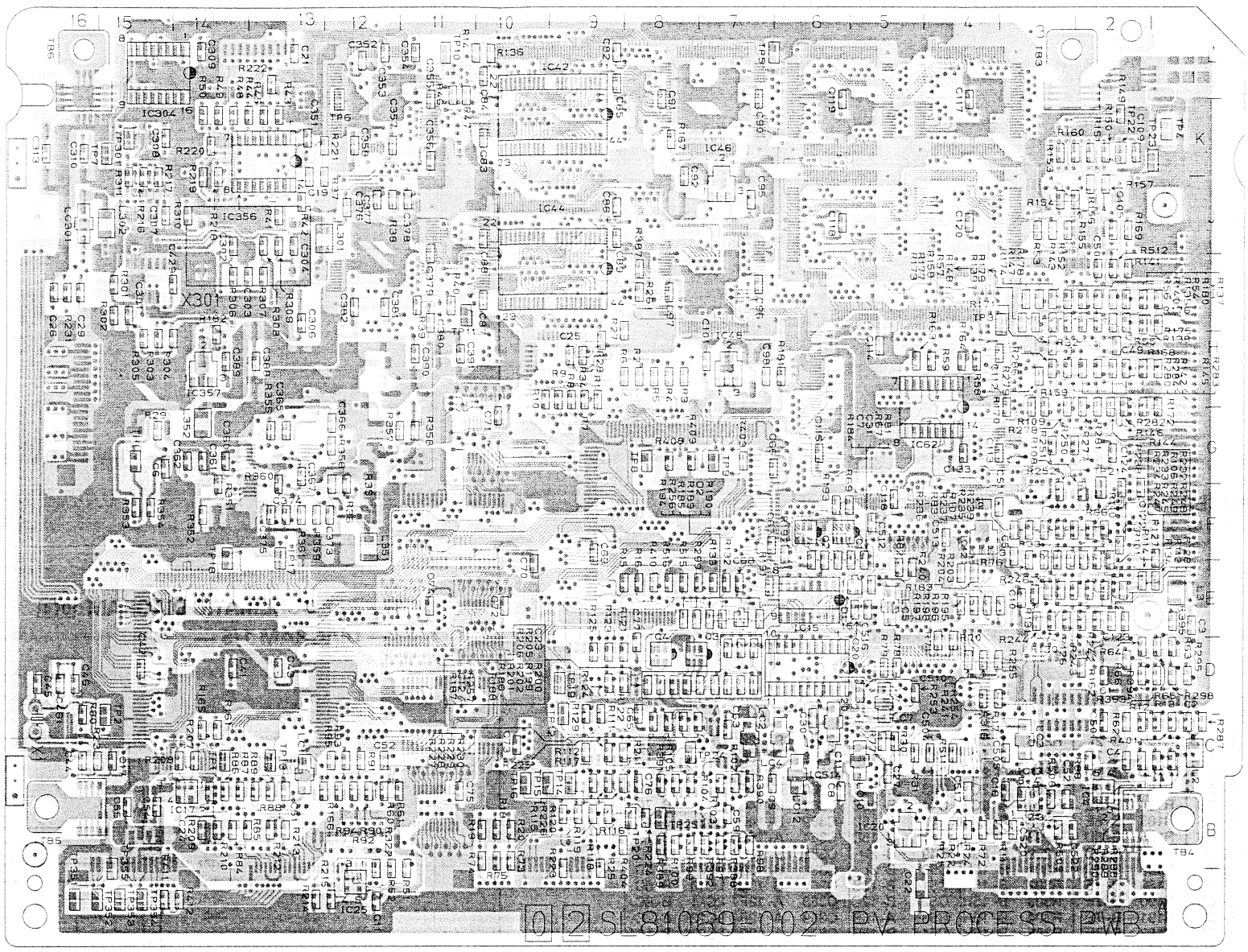


— INNER PATTERN (SIDE A) —

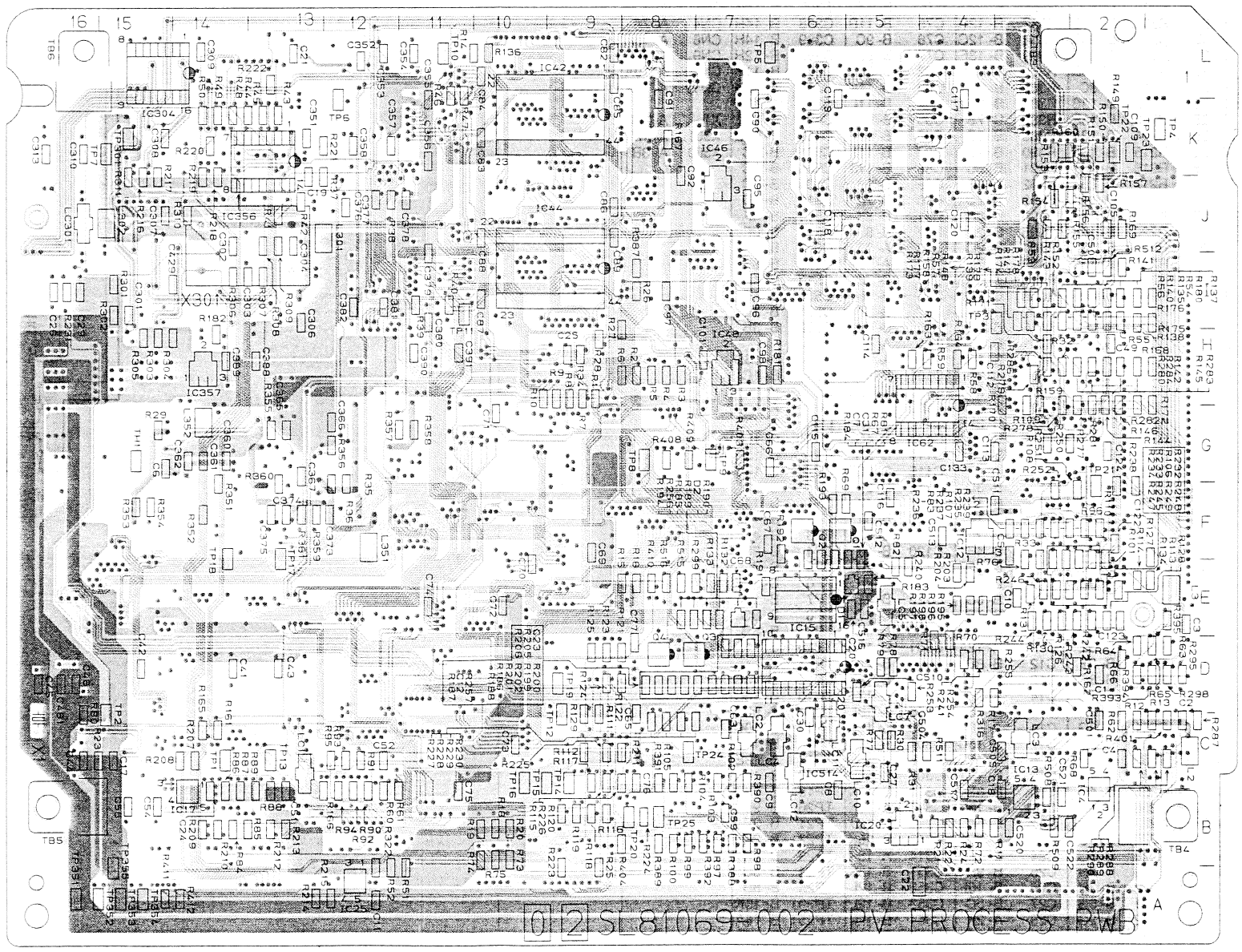




— SIDE B —

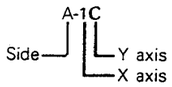


— INNER PATTERN (SIDE B) —



●ADDRESS TABEL OF PV PROCESS BOARD PARTS

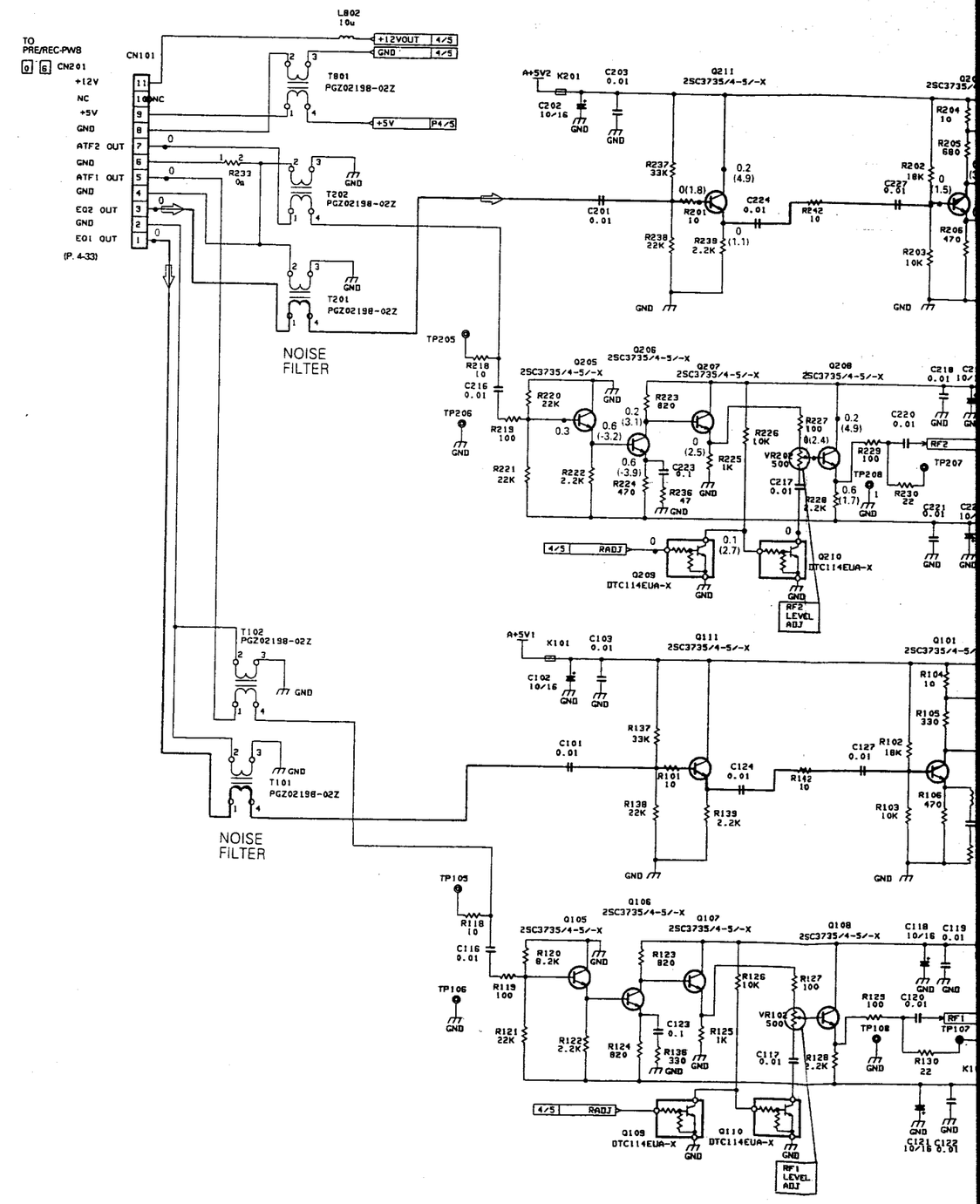
Each address may have an address error by one interval.



IC1	A- 1C	R8	B- 9H	R94	B- 12B	R180	B- 2I	R286	B- 3H	C31	B- 6E	C357	B- 12K	TP354	B- 15A
IC2	A- 1D	R9	B- 10H	R95	B- 13C	R181	B- 7H	R287	B- 1C	C41	B- 14D	C358	B- 12K	TP355	B- 15A
IC3	A- 7D	R10	B- 10H	R96	B- 3F	R182	B- 14H	R288	B- 2C	C42	B- 15D	C359	A- 14F		
IC4	B- 3B	R11	B- 4B	R97	B- 8B	R183	B- 6E	R289	B- 2C	C43	B- 13D	C360	B- 14G	LC1	B- 13C
IC5	A- 4E	R12	B- 2C	R98	B- 7B	R184	B- 6E	R290	B- 2C	C44	B- 16C	C361	B- 14G	LC2	B- 7C
IC6	A- 6E	R13	B- 2C	R99	B- 8B	R185	B- 8E	R295	B- 1D	C45	B- 16D	C362	B- 14G	LC3	B- 4C
IC7	A- 14D	R14	B- 11L	R100	B- 8B	R186	B- 8D	R298	B- 2D	C46	B- 16D	C364	A- 15G	LC4	B- 7C
IC8	A- 8F	R15	B- 9E	R101	B- 2E	R187	B- 8D	R299	B- 8E	C49	B- 2H	C365	B- 13G	LC5	B- 5E
IC9	A- 5G	R16	B- 9E	R102	B- 7C	R188	B- 8D	R301	B- 15I	C50	B- 3I	C366	B- 13G	LC7	B- 5D
IC10	A- 10E	R17	B- 4D	R103	B- 8C	R189	B- 7E	R302	B- 15I	C51	B- 13B	C367	B- 13G	LC10	B- 6C
IC11	A- 5E	R18	B- 10B	R104	B- 8C	R190	B- 7E	R303	B- 15H	C52	B- 12C	C368	A- 12F	LC11	B- 6C
IC12	B- 4F	R19	B- 11B	R105	B- 8C	R191	B- 7E	R304	B- 15H	C53	A- 15B	C369	A- 12F	LC12	B- 7C
IC13	B- 4B	R20	B- 10B	R106	B- 3E	R192	B- 7F	R305	B- 15H	C54	B- 15B	C370	A- 12G	LC301	B- 16J
IC14	A- 10H	R21	B- 5B	R107	B- 3F	R193	B- 6F	R306	B- 14I	C55	B- 15B	C371	A- 12G	LC351	A- 13G
IC15	B- 6E	R22	B- 4B	R108	B- 3F	R194	B- 8E	R307	B- 13I	C56	A- 16B	C372	A- 12F	LC352	A- 12H
IC16	A- 11B	R23	B- 16C	R109	B- 3G	R195	B- 4E	R308	B- 13J	C59	B- 7B	C373	B- 13F		
IC17	B- 14B	R24	B- 4B	R110	B- 2F	R196	B- 4E	R309	B- 13J	C63	B- 7C	C374	B- 13F	TB1	A- 16K
IC18	A- 5D	R25	B- 9A	R111	B- 9C	R197	B- 4E	R310	B- 14J	C65	B- 9C	C375	B- 13F	TB2	A- 2L
IC19	A- 4B	R26	B- 9I	R112	B- 9C	R198	B- 4E	R311	B- 15J	C66	B- 7G	C376	B- 12J	TB3	B- 3L
IC20	B- 5B	R27	B- 9H	R113	B- 2E	R199	B- 7D	R316	B- 4D	C67	B- 7F	C377	B- 12J	TB4	B- 2B
IC21	A- 13B	R28	B- 9H	R114	B- 2E	R200	B- 7D	R322	B- 12A	C68	B- 7E	C378	B- 12J	TB5	B- 16B
IC22	A- 12B	R29	B- 15G	R115	B- 9C	R201	B- 8D	R351	B- 14F	C69	B- 9F	C379	B- 11I	TB6	B- 16L
IC23	A- 15B	R30	B- 5C	R116	B- 9B	R202	B- 7D	R352	B- 14F	C70	B- 10E	C380	B- 11I		
IC24	A- 7B	R31	B- 5C	R117	B- 9C	R203	B- 4E	R353	B- 15F	C71	B- 10G	C381	B- 12I	TH1	B- 15G
IC25	B- 12A	R32	B- 3H	R118	B- 9B	R204	B- 4E	R354	B- 15F	C72	B- 10E	C382	B- 12I		
IC26	A- 7C	R33	B- 3E	R119	B- 9B	R205	B- 7D	R355	B- 13G	C73	B- 10C	C386	A- 14H	CN1	A- 16H
IC27	A- 16I	R34	B- 9H	R120	B- 10B	R206	B- 7D	R356	B- 13G	C74	B- 11E	C387	A- 14H	CN2	A- 3A
IC28	A- 9C	R35	B- 12F	R121	B- 9D	R207	B- 14C	R357	B- 12G	C75	B- 11B	C388	B- 14H	CN4	A- 7A
IC29	A- 6D	R36	B- 13F	R122	B- 9D	R208	B- 15C	R358	B- 12G	C76	B- 9C	C389	B- 14H	CN6	A- 13A
IC30	A- 10F	R37	B- 13J	R123	B- 9D	R209	B- 14B	R359	B- 13F	C77	B- 9D	C390	B- 12H	CN9	A- 2G
IC31	A- 10G	R38	B- 12J	R124	B- 9D	R210	B- 14B	R360	B- 13F	C82	B- 9L	C391	B- 11H	CN10	A- 10A
IC33	A- 10C	R39	B- 11I	R125	B- 9D	R211	B- 9C	R361	B- 13F	C83	B- 11K	C392	A- 12H	CN12	A- 15A
IC34	A- 11E	R40	B- 11I	R126	B- 3E	R212	B- 13B	R387	B- 9I	C84	B- 11L	C393	A- 11H		
IC36	A- 9B	R41	B- 13J	R127	B- 2E	R213	B- 13B	R388	B- 7B	C85	B- 9L	C429	B- 15I	X1	A- 16C
IC37	A- 9D	R42	B- 13J	R128	B- 2E	R214	B- 13A	R389	B- 8B	C86	B- 9J	C461	B- 16D	X301	A- 13I
IC41	A- 10K	R43	B- 13K	R129	B- 9C	R215	B- 13A	R390	B- 7C	C87	B- 11I	C501	B- 3C	X500	A- 3B
IC42	B- 9K	R44	B- 14K	R130	B- 3E	R216	B- 15J	R391	B- 8C	C88	B- 11J	C504	B- 5C		
IC43	A- 10I	R45	B- 13K	R131	B- 3E	R217	B- 15J	R392	B- 8B	C89	B- 9J	C505	B- 4C		
IC44	B- 9I	R46	B- 11K	R132	B- 7E	R218	B- 14J	R393	B- 2D	C90	B- 7K	C510	B- 6D		
IC45	A- 8K	R47	B- 11K	R133	B- 8E	R219	B- 14J	R394	B- 2D	C91	B- 8K	C511	B- 4F		
IC46	B- 8J	R48	B- 14K	R134	B- 2E	R220	B- 14K	R395	B- 2E	C92	B- 8J	C512	B- 6F		
IC47	A- 8I	R49	B- 14K	R135	B- 3I	R221	B- 13K	R401	B- 2C	C93	A- 8J	C513	B- 5F		
IC48	B- 7H	R50	B- 14K	R136	B- 11L	R222	B- 13L	R403	B- 7G	C94	A- 7J	C516	B- 6E		
IC49	A- 2J	R51	B- 12A	R137	B- 2I	R223	B- 10A	R404	B- 9B	C95	B- 7J	C517	B- 4B		
IC51	A- 2J	R52	B- 12A	R138	B- 2I	R224	B- 8B	R408	B- 8G	C96	B- 7I	C520	B- 4B		
IC55	A- 4K	R53	B- 3J	R139	B- 3I	R225	B- 9C	R409	B- 8G	C97	B- 8I	C521	B- 3B		
IC56	A- 6J	R54	B- 2I	R140	B- 3I	R226	B- 9C	R410	B- 8E	C98	B- 7H	C522	B- 3B		
IC57	A- 6K	R55	B- 2I	R141	B- 2I	R227	B- 8C	R411	B- 15A	C99	A- 7H				
IC58	A- 4J	R56	B- 3I	R142	B- 2H	R228	B- 8C	R412	B- 15A	C100	A- 7H	L1	A- 16D		
IC59	A- 3F	R57	B- 3I	R143	B- 3J	R229	B- 8C	R508	B- 3B	C101	B- 8H	L2	B- 1C		
IC60	A- 3E	R58	B- 4H	R144	B- 2G	R230	B- 8C	R509	B- 3B	C105	B- 2J	L3	B- 2E		
IC61	A- 3G	R59	B- 5H	R145	B- 2H	R231	B- 16I	R511	B- 4C	C109	B- 2K	L4	A- 16C		
IC62	B- 4G	R60	B- 12B	R146	B- 2G	R232	B- 3E	R512	B- 2I	C112	B- 4H	L301	B- 13J		
IC66	A- 3I	R61	B- 12B	R147	B- 3I	R233	B- 3E	R515	B- 8E	C113	B- 4G	L302	B- 16J		
IC67	A- 3H	R62	B- 2C	R148	B- 3I	R234	B- 3E	R516	B- 8E	C114	B- 5H	L351	B- 12F		
IC301	A- 15I	R63	B- 2D	R149	B- 2K	R235	B- 3F			C115	B- 6G	L352	B- 14G		
IC302	A- 15J	R64	B- 2D	R150	B- 3K	R236	B- 4F	C1	B- 3D	C116	B- 5F				
IC303	A- 15K	R65	B- 2D	R151	B- 3K	R237	B- 3F	C2	B- 1C	C117	B- 4K	TP1	B- 14C		
IC304	B- 14L	R66	B- 2D	R152	B- 3J	R238	B- 2F	C3	B- 1E	C118	B- 6J	TP2	B- 16C		
IC351	A- 12K	R67	B- 6E	R153	B- 3K	R239	B- 3F	C4	B- 2C	C119	B- 6K	TP3	B- 4I		
IC352	A- 12I	R68	B- 3C	R154	B- 3J	R240	B- 5E	C5	B- 4F	C120	B- 4J	TP4	B- 2K		
IC353	A- 13G	R69	B- 6F	R155	B- 3J	R241	B- 4D	C6	B- 15G	C121	A- 2K	TP5	B- 7L		
IC354	A- 13K	R70	B- 4D	R156	B- 3J	R242	B- 3E	C7	B- 6E	C122	B- 2F	TP6	B- 12K		
IC355	A- 13L	R71	B- 5D	R157	B- 3J	R243	B- 3E	C8	B- 6B	C123	B- 2E	TP7	B- 16K		
IC356	B- 13K	R72	B- 4B	R158	B- 3I	R244	B- 3E	C9	B- 7C	C124	B- 2G	TP8	B- 8G		
IC357	B- 14H	R73	B- 10B	R159	B- 3G	R245	B- 3E	C10	B- 4E	C133	B- 4G	TP9	B- 8G		
IC503	A- 3C	R74	B- 11B	R160	B- 3K	R246	B- 3E	C11	B- 12A	C301	B- 15I	TP10	B- 11L		
IC504	A- 4B	R75	B- 10B	R161	B- 14C	R247	B- 3E	C12	B- 8D	C302	B- 14J	TP11	B- 11I		
IC514	B- 6D	R76	B- 4E	R162	B- 3D	R248	B- 3E	C13	A- 6B	C303	B- 14I	TP12	B- 10C		
IC515	A- 3D	R77	B- 5C	R163	B- 5H	R249	B- 3E	C14	A- 7B	C304	B- 13J	TP13	B- 13C		
		R78	B- 5D	R164	B- 4H	R250	B- 3G	C15	A- 4E	C305	A- 13I	TP14	B- 9C		
Q1	B- 6F	R79	B- 5D	R165	B- 14C	R251	B- 3G	C16	A- 4F	C306	B- 13I	TP15	B- 10C		
Q2	B- 6F	R80	B- 16C	R166	B- 13B	R252	B- 3F	C17	B- 15C	C307	B- 15J	TP16	B- 10C		
Q3	B- 8D	R81	B- 6E	R167	B- 8K	R253	B- 5D	C18	B- 4B	C308	B- 15K	TP17	B- 13E		
Q4	B- 8D	R82	B- 5E	R168	B- 2H	R254	B- 4D	C19	B- 13J	C309	B- 14L	TP18	B- 14E		
		R83	B- 4F	R169	B- 2J	R255	B- 4D	C20	B- 6E	C310	B- 16K	TP19	B- 10D		
D1	B- 6E	R84	B- 14B	R170	B- 4G	R256	B- 8E	C21	B- 13L	C311	A- 16K	TP20	B- 9B		
D2	B- 7E	R85	B- 14B	R171	B- 3H	R257	B- 8D	C22	B- 5A	C312	A- 16J	TP21	B- 3F		
		R86	B- 14B	R172	B- 2G	R277	B- 3G	C23	B- 7D	C313	B- 16K	TP22	B- 2K		
R1	B- 9H	R87	B- 14B	R173	B- 4I	R278	B- 3G	C24	B- 14B	C314	A- 16K	TP23	B- 2K		
R2	B- 9H	R88	B- 13B	R174	B- 4I	R279	B- 3H	C25	B- 9H	C351	B- 13K	TP24	B- 8C		
R3	B- 8H	R89	B- 14B	R175	B- 2I	R280	B- 3H	C26	B- 16I	C352	B- 12L	TP25	B- 8B		
R4	B- 8H	R90	B- 12B	R176	B- 2I	R281	B- 3G	C27	B- 5C	C353	B- 12L	TP301	B- 15K		
R5	B- 8H	R91	B- 12C	R177	B- 3I	R282	B- 2G	C28	A- 2K	C354	B- 12L	TP351	B- 16A		
R6	B- 9H	R92	B- 12B	R178	B- 3I	R283	B- 2H	C29	B- 16I	C355	B- 11K	TP352	B- 16A		
R7	B- 9H	R93	B- 12C	R179	B- 2I	R284	B- 3H	C30	B- 6C	C356	B- 11K	TP353	B- 15A		

4.17 RFP SCHEMATIC DIAGRAM [04]

— DIAGRAM 1/5 —



4.17 RFP SCHEMATIC DIAGRAM 0|4

— DIAGRAM 1/5 —

4 B- 15A
5 B- 15A

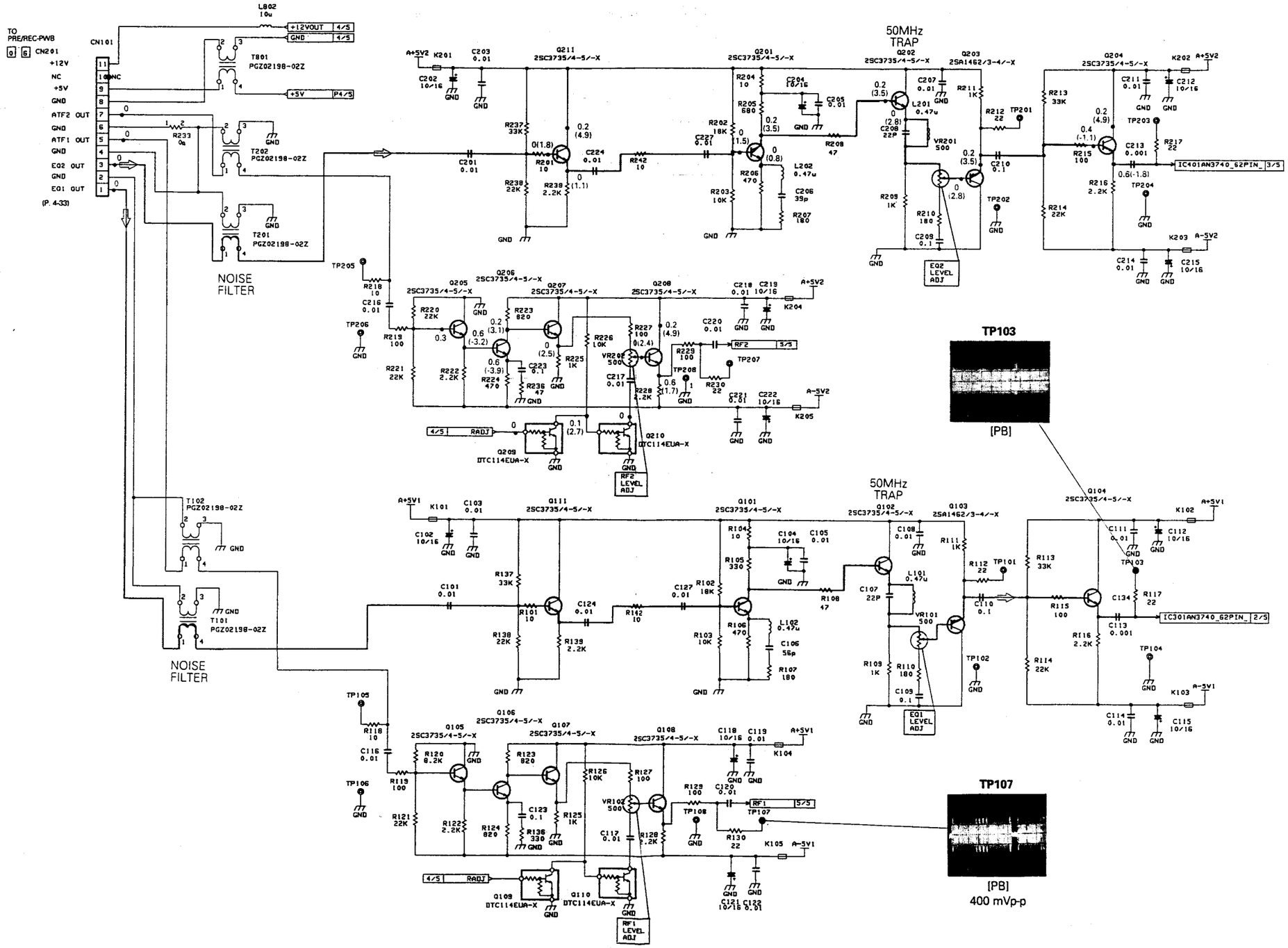
B- 13C
B- 7C
B- 4C
B- 7C
B- 5E
B- 5D
B- 6C
B- 6C
B- 7C
1 B- 16J
1 A- 13G
2 A- 12H

A- 16K
A- 2L
B- 3L
B- 2B
B- 16B
B- 16L

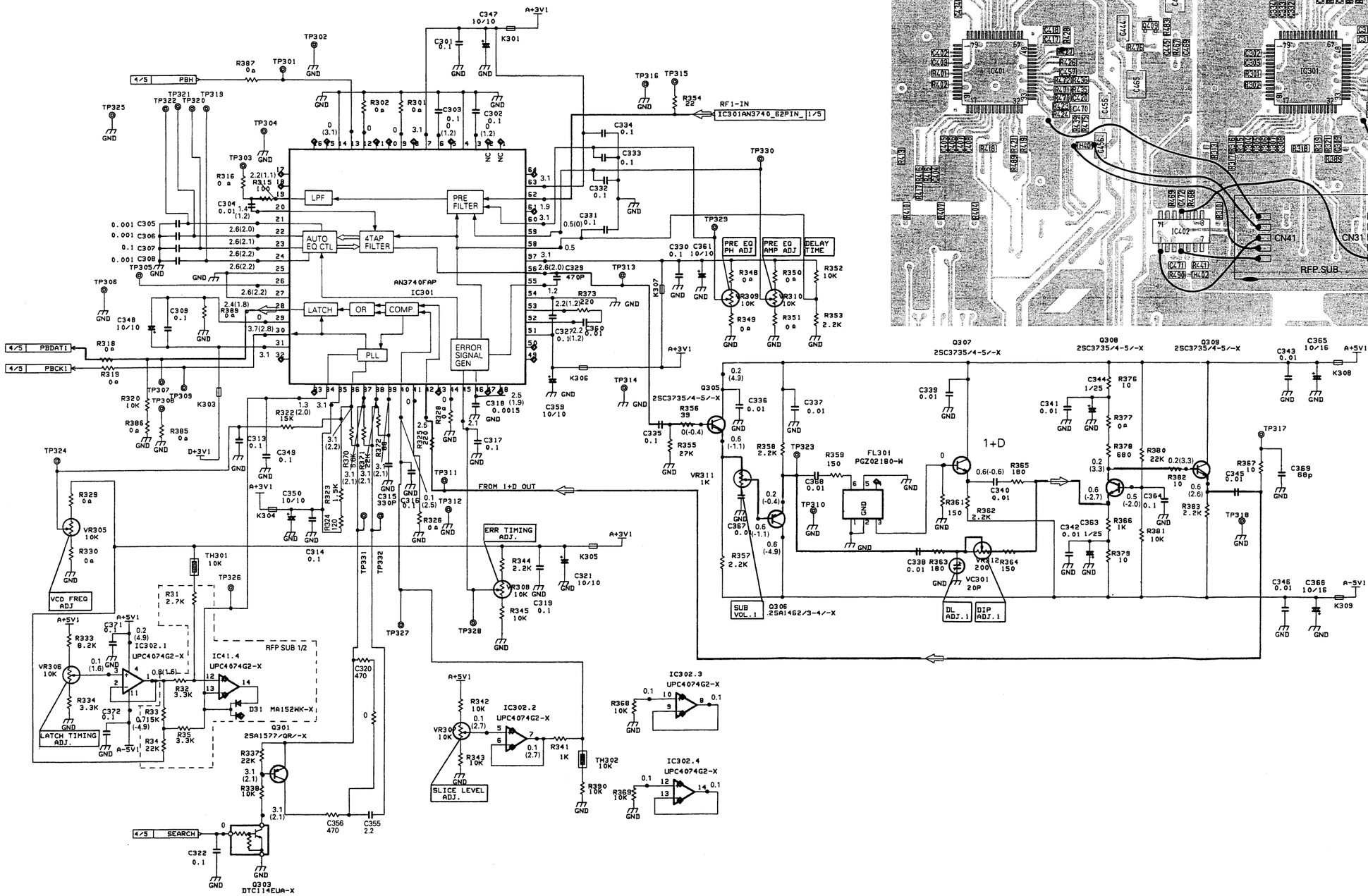
B- 15G

A- 16H
A- 3A
A- 7A
A- 13A
A- 2G
0 A- 10A
2 A- 15A

A- 16C
A- 13I
A- 3B

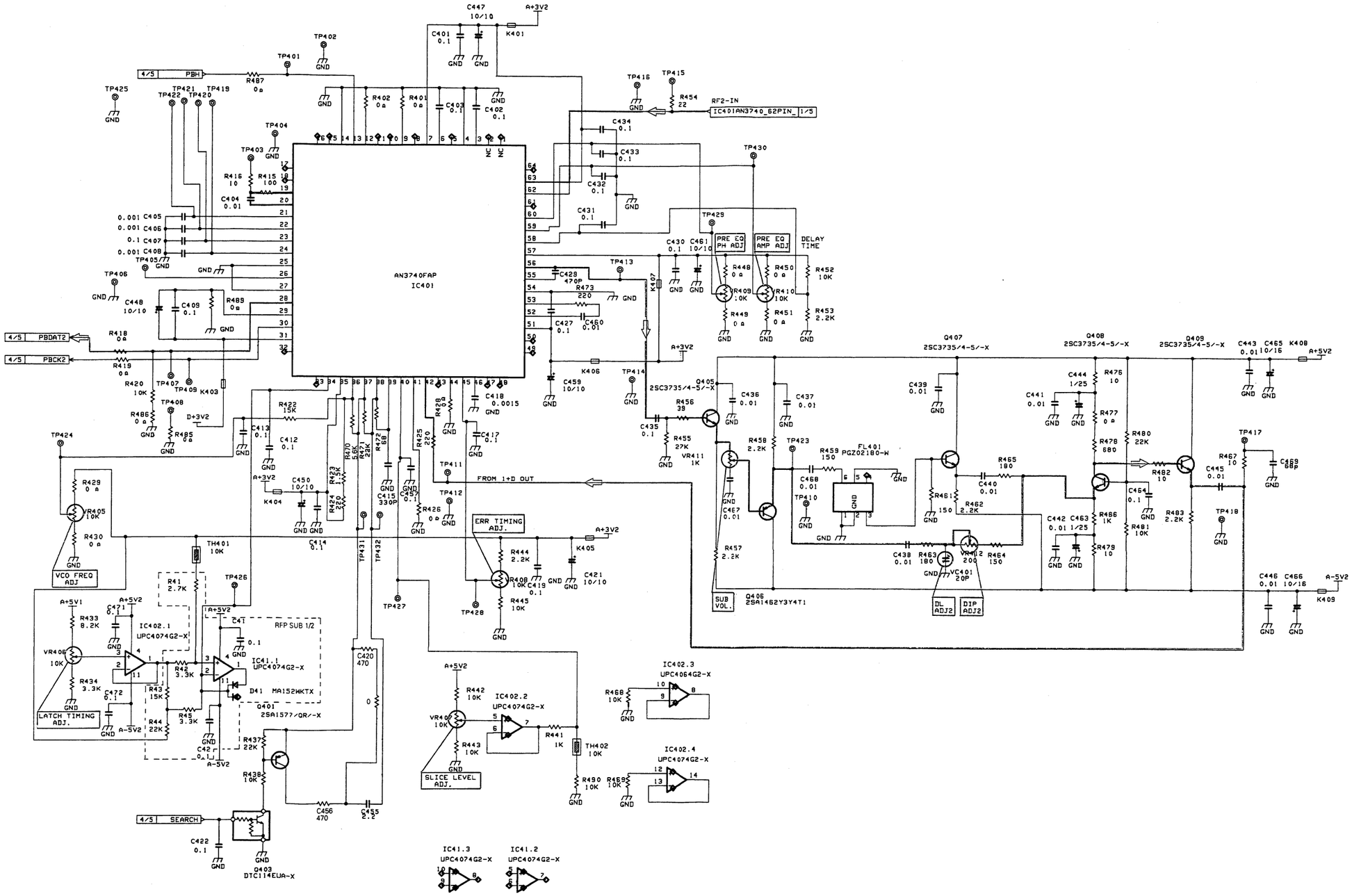


— DIAGRAM 2/5 —


AN3740FAP
IC301
LPF
PRE FILTER
AUTO EQ CTL
4TAP FILTER
LATCH
OR
COMP
PLL
ERROR SIGNAL GEN
PRE EQ PH ADJ
PRE EQ AMP ADJ
DELAY TIME
RF1-IN
IC301AN3740_62PIN_ 1/5
4/5 PBH
4/5 PBDATI
4/5 PBCKI
4/5 SEARCH
FROM 1+D OUT
ERR TIMING ADJ.
VCO FREQ ADJ
LATCH TIMING ADJ.
SLICE LEVEL ADJ.
SUB VOL.1
DL ADJ.1
DIP ADJ.1
RFP SUB 1/2
IC41.4 UPC4074G2-X
IC302.1 UPC4074G2-X
IC302.2 UPC4074G2-X
IC302.3 UPC4074G2-X
IC302.4 UPC4074G2-X
Q301 2SA1577/QR/-X
Q303 DTC114EUA-X
Q305 2SC3735/4-5/-X
Q306 2SA1462/3-4/-X
Q307 2SC3735/4-5/-X
Q308 2SC3735/4-5/-X
Q309 2SC3735/4-5/-X
D31 MA152WK-X
1+D
FL301 PGZ02180-W
VC301 20P
A+3V1
A+5V1
A-5V1
D+3V1
GND

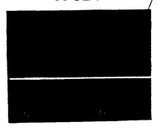
IC301
IC402
IC302
CN41
CN31
RFP SUB

— DIAGRAM 3/5 —


AN3740FAP
IC401
C447 10/10
A+3V2
K401
C401 0.1
TP402
TP401
4/5 PBH
R487 0Ω
TP425
TP421 TP419
TP422 TP420
R402 0Ω
R401 0Ω
C403 0.1
C402 0.1
TP404
TP403
TP416
TP415
R454 22
RF2-IN
IC401AN3740_62PIN_ 1/5
C434 0.1
C433 0.1
C432 0.1
C431 0.1
TP430
TP429
R416 10
R415 100
C404 0.01
0.001 C405
0.001 C406
0.1 C407
0.001 C408
TP405
C430 0.1
C461 10/10
PRE EQ PH ADJ
PRE EQ AMP ADJ
DELAY TIME
R448 0Ω
R450 0Ω
R452 10K
VR409 10K
VR410 10K
R449 0Ω
R451 0Ω
R453 2.2K
TP406
C448 10/10
C409 0.1
R489 0Ω
TP413
C428 470P
R473 220
C427 0.1
C460 0.01
K407
4/5 PBDAT2
4/5 PBCK2
R418 0Ω
R419 0Ω
A+3V2
Q407 2SC3735/4-5/-X
Q408 2SC3735/4-5/-X
Q409 2SC3735/4-5/-X
C443 0.01
C465 10/16
K408
A+5V2
R420 10K
TP407
TP409
K403
TP408
R486 0Ω
R485 0Ω
D+3V2
TP414
Q405 2SC3735/4-5/-X
C436 0.01
C437 0.01
C439 0.01
C444 1/25
R476 10
C441 0.01
R477 0Ω
R478 680
R480 22K
C435 0.1
R455 27K
VR411 1K
R456 39
R458 2.2K
TP423
R459 150
FL401 PGZ02180-W
C468 0.01
TP410
C467 0.01
R457 2.2K
R461 150
C440 0.01
R465 180
R462 2.2K
C438 0.01
R463 180
VR412 200
VC401 20P
R464 150
C442 0.01
C463 1/25
R486 1K
R479 10
R481 10K
R483 2.2K
C464 0.1
R482 10
C445 0.01
R467 10
C469 68P
TP417
TP418
C446 0.01
C466 10/16
A-5V2
K409
SUB VOL.
Q406 2SA1462Y3Y4T1
DL ADJ2
DIP ADJ2
C422 0.1
4/5 SEARCH
Q403 DTC114EUA-X
R422 15K
C413 0.1
C412 0.1
R423 5.6K
R424 220
R425 220
R426 0Ω
R428 0Ω
C418 0.0015
C417 0.1
C415 330P
C457 0.1
TP411
TP412
FROM 1+D OUT
TP424
R429 0Ω
VR405 10K
R430 0Ω
VCO FREQ ADJ
TH401 10K
TP426
TP427
TP428
TP431
TP432
ERR TIMING ADJ.
R444 2.2K
VR408 10K
R445 10K
C419 0.1
C421 10/10
K405
A+3V2
R441 1K
TH402 10K
R490 10K
R469 10K
R468 10K
R442 10K
R443 10K
VR407 10K
SLICE LEVEL ADJ.
C420 470
C456 470
C455 2.2
0
R41 2.7K
A+5V1
R433 8.2K
C471 0.1
VR406 10K
R434 3.3K
C472 0.1
LATCH TIMING ADJ.
IC402.1 UPC4074G2-X
IC41.1 UPC4074G2-X
IC402.2 UPC4074G2-X
IC402.3 UPC4064G2-X
IC402.4 UPC4074G2-X
IC41.3 UPC4074G2-X
IC41.2 UPC4074G2-X
RFP SUB 1/2
D41 MA152WKTX
Q401 2SA1577/QR/-X
R42 3.3K
R43 15K
R45 3.3K
R44 22K
R437 22K
R438 10K
C41
C42

— DIAGRAM 4/5 —

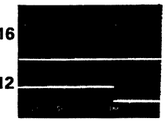
TP524



[PB]
4.8 Vp-p

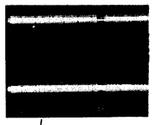
TP516

TP512



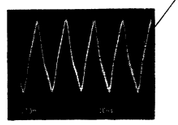
TP516 : SYNC BLOCK ERROR
TP512 : HIDP

TP501



[PB]
5 Vp-p

TP502



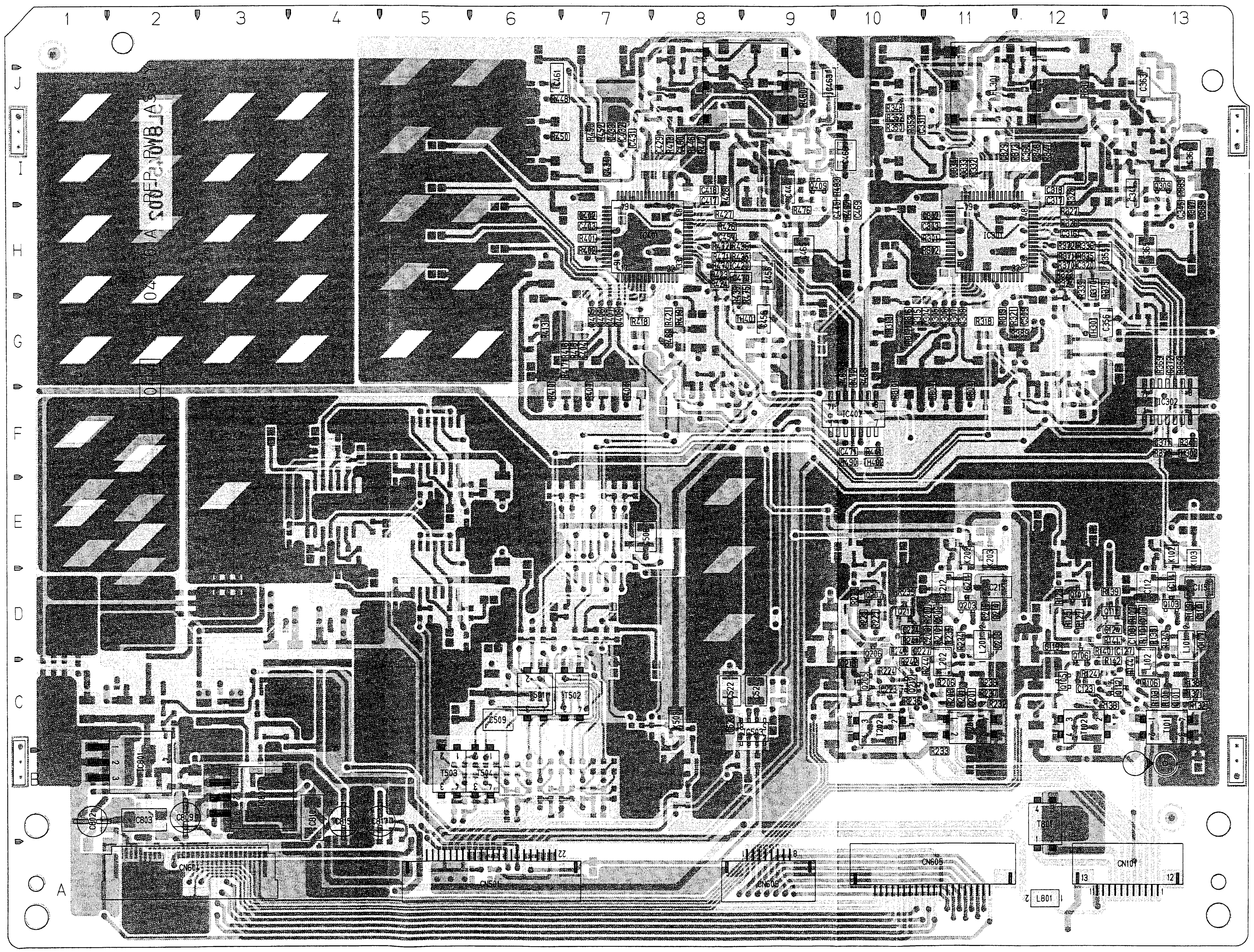
1 Vp-p/49.5 MHz

— DIAGRAM 5/5 —

4-29

4.18 RFP CIRCUIT BOARD

— SIDE A —



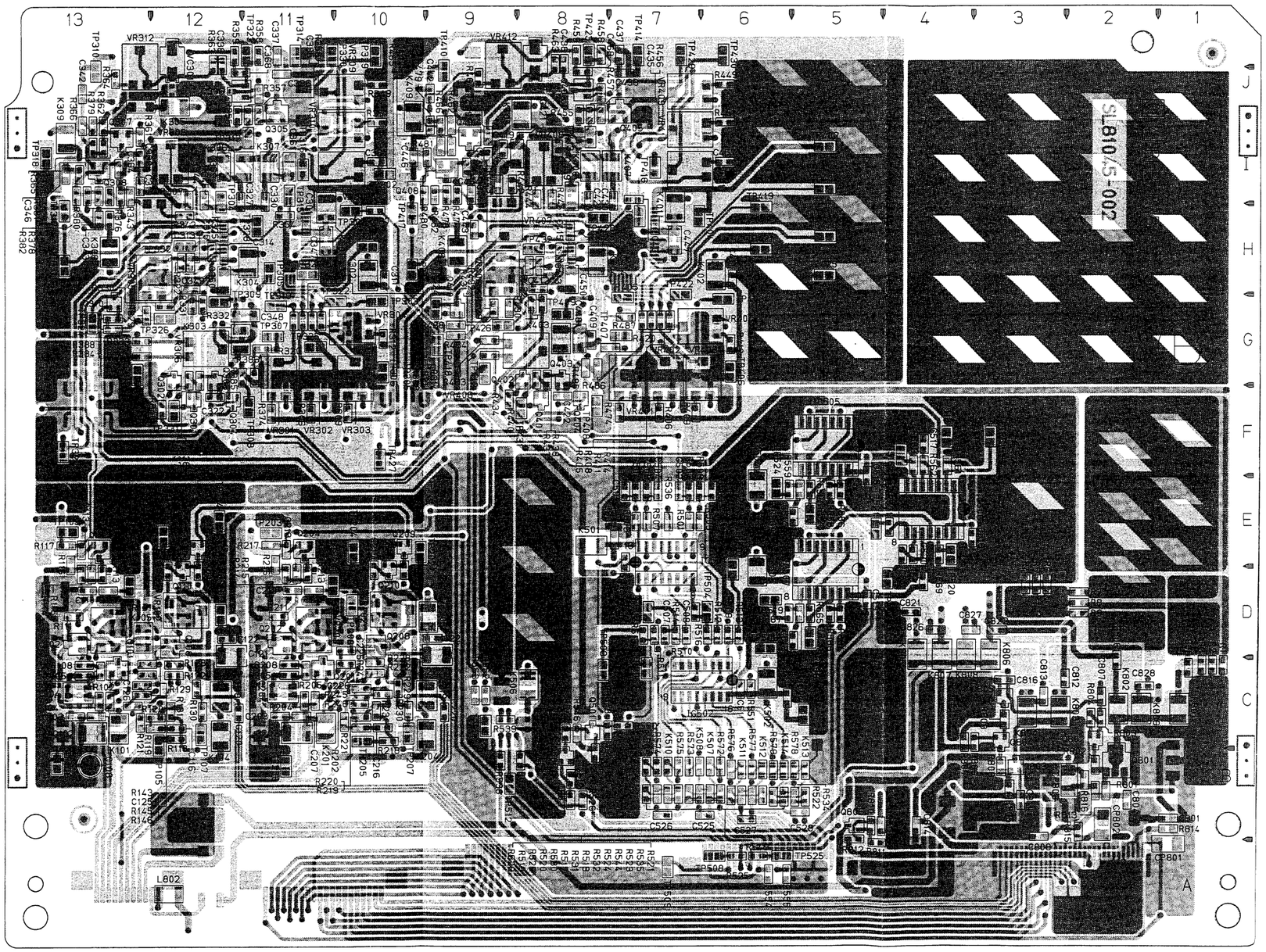
●ADDRESS TABLE OF BOARD PARTS

Each address may have an address error by one interval.

A-1C: Side — X axis — Y axis

IC301	A-11H	R114	B-13D	R312	B-10G	R411	B-7G	R509	B-6D
IC302	A-12F	R115	B-13D	R313	A-10G	R412	B-6G	R510	B-6D
IC401	A-7H	R116	B-13E	R314	B-10G	R413	A-6G	R511	B-7D
IC402	A-9F	R117	B-13E	R315	A-10G	R414	B-7G	R512	B-6D
IC501	B-7E	R118	B-12C	R316	A-10G	R415	A-6G	R513	B-6D
IC502	B-6C	R119	B-12C	R317	A-10G	R416	A-6G	R514	B-7D
IC503	A-8C	R120	B-12C	R318	A-11G	R417	A-6G	R515	B-7D
IC505	B-5F	R121	B-12C	R319	A-11G	R418	A-7G	R516	B-6D
IC506	B-4E	R122	B-12C	R320	B-11G	R419	A-8G	R517	B-6B
IC507	B-5E	R123	A-12D	R321	A-11G	R420	B-7G	R518	B-6B
IC801	A-2B	R124	A-12C	R322	B-12H	R421	A-7G	R519	B-7B
IC802	A-3B	R125	A-12D	R323	A-12H	R422	B-8H	R520	B-7B
		R126	B-12E	R324	A-12H	R423	A-8H	R521	B-5B
Q101	B-12D	R127	A-12D	R325	B-11H	R424	A-8H	R522	B-5B
Q102	B-13D	R128	B-12D	R326	A-12H	R425	B-8H	R523	B-6B
Q103	A-13D	R129	B-12C	R327	A-12H	R426	A-8H	R524	B-6B
Q104	B-13E	R130	B-11C	R328	A-12I	R427	A-8H	R525	B-6A
Q105	A-12C	R131	B-12C	R329	B-12G	R428	A-8I	R526	B-8B
Q106	A-12D	R132	A-13C	R330	B-12G	R429	B-8G	R527	B-8B
Q107	A-12D	R134	A-13D	R331	B-12G	R430	B-8G	R528	B-7B
Q108	B-12D	R135	A-13D	R332	B-11G	R431	B-8G	R529	B-7B
Q109	B-12E	R136	A-12C	R333	B-12G	R432	B-8G	R530	B-6B
Q110	B-12E	R137	A-13C	R334	B-12G	R433	B-8G	R531	B-6B
Q111	A-12D	R138	A-13C	R335	A-12H	R434	B-8G	R532	B-6B
Q112	A-12C	R139	A-12D	R336	A-12H	R435	A-8H	R533	B-7E
Q201	B-10D	R140	A-12D	R337	B-12G	R436	A-8H	R534	B-5B
Q202	B-11D	R141	A-12D	R338	B-12G	R437	B-8G	R535	B-6B
Q203	A-11D	R142	A-12D	R339	A-12H	R438	B-8G	R536	B-7E
Q204	B-10E	R143	B-12D	R340	B-12F	R439	A-8G	R537	B-8B
Q205	A-10C	R144	A-12D	R341	A-13F	R440	B-8F	R538	B-8B
Q206	A-10D	R145	B-12C	R342	B-12H	R441	A-10F	R539	B-8C
Q207	A-10D	R146	B-12C	R343	B-12I	R442	B-8I	R544	B-6B
Q208	B-10D	R201	A-11C	R344	B-12I	R443	B-8I	R546	B-8C
Q209	B-9E	R202	B-10C	R345	B-11I	R444	B-8I	R547	B-8C
Q210	B-10E	R203	A-10C	R346	A-11I	R445	B-8I	R548	B-7C
Q211	A-10D	R204	B-10C	R347	A-11I	R446	A-8I	R549	B-6A
Q212	A-10C	R205	B-10C	R348	A-10J	R447	A-8I	R550	B-7C
Q301	B-12F	R206	A-10C	R349	B-10J	R448	A-6J	R551	B-6C
Q302	B-12G	R207	A-10D	R350	A-10I	R449	B-6J	R552	B-9C
Q303	B-11G	R208	B-11D	R351	B-10I	R450	A-6I	R553	B-9C
Q304	B-11F	R209	A-11D	R352	A-10I	R451	B-6I	R554	B-6A
Q305	B-11I	R210	A-10D	R353	A-10I	R452	A-7I	R555	B-5A
Q306	B-11J	R211	B-11D	R354	B-11H	R453	A-7I	R556	B-5E
Q307	B-12I	R212	B-10D	R355	B-11I	R454	B-7I	R557	B-5E
Q308	B-13I	R213	B-10D	R356	B-11I	R455	B-8I	R558	B-5E
Q309	A-13I	R214	B-11D	R357	B-11J	R456	B-7I	R559	B-5E
Q310	B-12G	R215	B-11D	R358	B-11J	R457	B-7J	R560	B-5E
Q401	B-8F	R216	B-11E	R359	B-11J	R458	B-7J	R561	B-4F
Q402	B-8G	R217	B-11E	R360	A-12J	R459	B-8J	R562	B-4F
Q403	B-8G	R218	B-10C	R361	B-12I	R460	A-9J	R563	B-4F
Q404	B-8F	R219	B-10C	R362	B-12I	R461	B-8I	R564	B-5D
Q405	B-7I	R220	B-10C	R363	B-11J	R462	B-9I	R565	B-5D
Q406	B-8J	R221	B-10C	R364	B-12J	R463	B-8J	R566	B-5D
Q407	B-9I	R222	B-10C	R365	B-13I	R464	B-9J	R567	B-5D
Q408	B-9I	R223	A-9D	R366	B-13I	R465	B-9I	R568	B-5D
Q409	A-9I	R224	A-10C	R367	A-13H	R466	B-9I	R569	B-4E
Q410	B-9G	R225	A-10D	R368	A-13G	R467	A-9H	R570	B-4E
Q501	B-7C	R226	B-9E	R369	A-13G	R468	A-10G	R571	B-4E
Q502	B-8C	R227	A-10D	R370	A-12H	R469	A-9G	R572	B-6B
Q801	B-2B	R228	B-10D	R371	A-12H	R470	A-8H	R573	B-6B
Q802	B-2C	R229	B-9C	R372	A-12H	R471	A-8H	R574	B-7B
Q803	B-3B	R230	B-9C	R373	A-11I	R472	A-8H	R575	B-7B
Q804	B-3C	R231	B-10C	R374	B-11F	R473	A-7I	R576	B-6B
Q805	B-3C	R232	A-11C	R375	A-12H	R474	B-7F	R577	B-6B
Q806	B-5B	R233	A-10C	R376	B-12H	R475	A-8G	R578	B-5B
		R234	A-11D	R377	B-12I	R476	A-9H	R579	B-6B
R1	B-1D	R235	A-10D	R378	B-13I	R477	B-9I	R801	B-2B
R2	B-1D	R236	A-10C	R379	B-13I	R478	B-9I	R802	B-2B
R3	B-1D	R237	A-11C	R380	B-13I	R479	B-9I	R803	B-2C
R4	B-3D	R238	A-11C	R381	B-13I	R480	B-9I	R804	B-2C
R5	B-3D	R239	A-10D	R382	B-13I	R481	B-9I	R805	B-3B
R6	B-3D	R240	A-10D	R383	A-13I	R482	B-9I	R806	B-3B
R7	B-2D	R241	A-10D	R384	B-12G	R483	A-9I	R807	B-4C
R8	B-2D	R242	A-10D	R385	B-11G	R484	B-9G	R808	B-3C
R9	B-2D	R243	B-10D	R386	B-11G	R485	B-7G	R809	B-3C
R101	A-13C	R244	A-10D	R387	B-10H	R486	B-7G	R810	B-4B
R102	B-12C	R245	B-10C	R388	B-12G	R487	B-7G	R811	B-4B
R103	A-13C	R246	B-10C	R389	A-11G	R488	B-9G	R812	B-5B
R104	B-13C	R301	A-10H	R390	A-13F	R489	A-7G	R813	B-2B
R105	B-13C	R302	A-10H	R401	A-7H	R490	A-9F	R814	B-1B
R106	A-12C	R304	A-11F	R402	A-7H	R501	B-6E	R815	B-2B
R107	A-12D	R305	B-11G	R404	A-7F	R502	B-6E	R816	B-2B
R108	B-13D	R306	B-10F	R405	B-7G	R503	B-7E		
R109	A-13D	R307	A-10F	R406	B-7F	R504	B-7E	VR101	B-12D
R110	A-12D	R308	B-10G	R407	A-7F	R505	B-6E	VR102	B-12D
R111	B-13D	R309	B-10F	R408	B-7G	R506	B-6E	VR201	B-10D
R112	B-12D	R310	A-10F	R409	B-6F	R507	B-7E	VR202	B-10D
R113	B-13D	R311	B-10G	R410	A-6F	R508	B-7E	VR301	B-11G

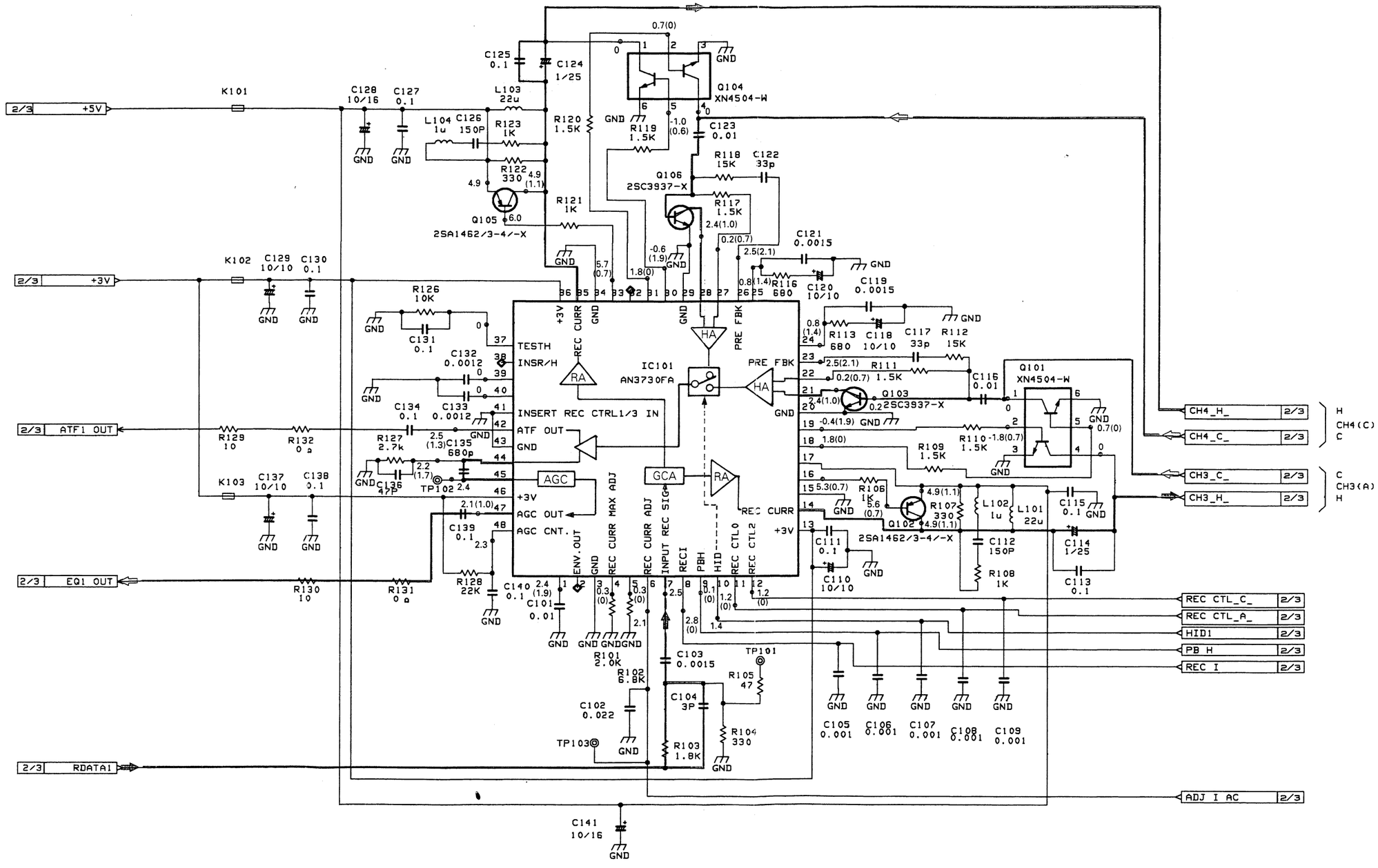
— SIDE B —

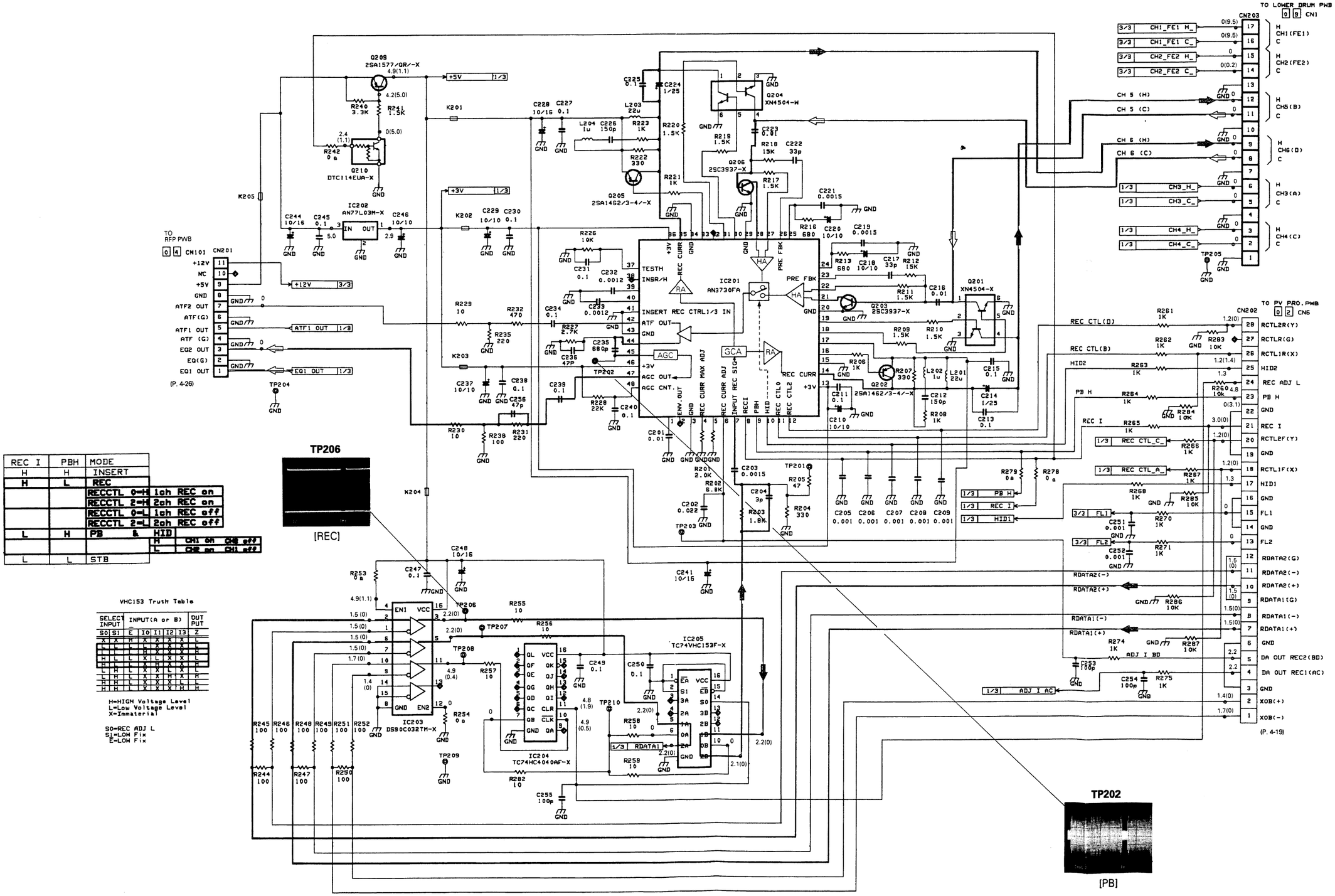


VR302	B- 10G	C313	B- 12H	C448	B- 8G	TP201	B- 10D	TP520	B- 4E		
VR303	B- 10G	C314	B- 11H	C450	B- 8H	TP202	B- 9E	TP521	B- 4E		
VR304	B- 10G	C315	B- 11H	C455	A- 8H	TP203	B- 11E	TP522	B- 4D		
VR305	B- 12H	C316	A- 12H	C456	A- 8G	TP204	B- 10E	TP523	B- 5E		
VR306	B- 11G	C317	A- 11I	C457	A- 8H	TP205	B- 10C	TP524	B- 6E		
VR307	B- 12H	C318	A- 11I	C459	B- 8I	TP206	B- 11B	TP525	B- 5A		
VR308	B- 12I	C319	B- 12I	C460	A- 8I	TP207	B- 9C				
VR309	B- 10J	C320	A- 12H	C461	A- 6J	TP208	B- 10D	CN101	A- 12A		
VR310	B- 10I	C321	B- 12J	C463	A- 9J	TP301	B- 10H	CN501	A- 6A		
VR311	B- 10I	C322	B- 11F	C464	B- 9I	TP302	B- 10I	CN603	A- 8A		
VR312	B- 12J	C327	B- 11I	C465	A- 9H	TP303	B- 10G	CN604	A- 2A		
VR401	B- 7G	C329	A- 11I	C466	A- 9I	TP304	B- 11I	CN605	A- 10A		
VR402	B- 7G	C330	B- 11I	C467	B- 6I	TP305	B- 11H				
VR403	B- 6G	C331	A- 10I	C468	B- 8J	TP306	B- 10G	CP801	B- 1B		
VR404	B- 6G	C332	A- 11I	C469	A- 9H	TP307	B- 11G	CP802	B- 2B		
VR405	B- 8H	C333	A- 11I	C470	A- 8H	TP308	B- 11F	CP803	B- 2B		
VR406	B- 8G	C334	A- 10I	C471	A- 9F	TP309	B- 11G				
VR407	B- 8H	C335	B- 11I	C472	A- 9G	TP310	B- 13J	T101	A- 13C		
VR408	B- 8I	C336	B- 11J	C501	B- 7E	TP311	B- 13H	T102	A- 12C		
VR409	B- 6J	C337	B- 11J	C502	B- 7E	TP312	B- 12G	T201	A- 11C		
VR410	B- 6I	C338	B- 11J	C503	B- 6E	TP313	B- 11I	T202	A- 10C		
VR411	B- 6I	C339	B- 12I	C504	B- 7E	TP314	B- 11J	T501	A- 6C		
VR412	B- 8J	C340	B- 12I	C505	B- 7E	TP315	B- 11I	T502	A- 7C		
		C341	B- 12I	C506	A- 7E	TP316	B- 10I	T503	A- 5B		
C101	A- 13C	C342	B- 13J	C507	B- 7D	TP317	B- 13H	T504	A- 6B		
C102	B- 13C	C343	B- 13H	C508	B- 6D	TP318	B- 13I	T801	A- 11B		
C103	B- 13C	C344	A- 12I	C509	A- 6C	TP319	B- 11G				
C104	B- 13C	C345	A- 13H	C510	B- 5C	TP320	B- 10H	TH301	A- 12G		
C105	B- 13C	C346	B- 13I	C511	B- 6C	TP321	B- 10H	TH302	A- 13F		
C106	A- 12D	C347	B- 10H	C512	B- 8B	TP322	B- 10G	TH401	A- 8G		
C107	A- 13D	C348	B- 11G	C513	B- 7C	TP323	B- 11J	TH402	A- 10F		
C108	B- 13C	C349	B- 12H	C514	B- 5E	TP324	B- 13G				
C109	A- 12D	C350	B- 11H	C515	B- 5F	TP325	B- 10G	K101	B- 12C		
C110	B- 13D	C355	A- 12H	C516	B- 3E	TP326	B- 12G	K102	A- 13E		
C111	A- 13D	C356	A- 12G	C517	B- 4F	TP327	B- 13F	K103	A- 13E		
C112	A- 12D	C359	B- 11I	C518	B- 5D	TP328	B- 11H	K104	B- 11C		
C113	B- 13E	C360	A- 11I	C519	B- 5D	TP329	B- 10J	K105	B- 12D		
C114	A- 13D	C361	B- 11I	C520	B- 4D	TP330	B- 10J	K201	B- 10C		
C115	A- 13D	C363	A- 12J	C521	B- 4E	TP331	B- 12F	K202	A- 11E		
C116	B- 12C	C364	B- 12I	C522	A- 8C	TP332	B- 12H	K203	A- 11E		
C117	B- 12E	C365	A- 12H	C523	A- 8C	TP401	B- 5I	K204	B- 9C		
C118	B- 11C	C366	A- 13I	C524	A- 8C	TP402	B- 5I	K205	B- 9D		
C119	A- 11D	C367	B- 10I	C525	B- 6B	TP403	B- 6G	K301	B- 10H		
C120	B- 11C	C368	B- 11J	C526	B- 7B	TP404	B- 6H	K302	B- 10H		
C121	B- 11D	C369	A- 13H	C527	B- 6B	TP405	B- 7G	K303	B- 11G		
C122	B- 11D	C370	A- 12H	C528	B- 5B	TP406	B- 6G	K304	B- 11H		
C123	A- 12C	C371	A- 13F	C801	B- 1B	TP407	B- 7G	K305	B- 12J		
C124	A- 12D	C372	A- 13G	C802	A- 1B	TP408	B- 7F	K306	B- 11I		
C125	B- 12C	C401	B- 7H	C803	A- 2B	TP409	B- 8G	K307	B- 11I		
C126	B- 12C	C402	A- 7H	C804	B- 2B	TP410	B- 9J	K308	B- 12H		
C127	A- 12D	C403	A- 7H	C805	B- 1C	TP411	B- 9H	K309	B- 13I		
C201	A- 11C	C404	A- 7G	C806	B- 2D	TP412	B- 9G	K401	B- 7H		
C202	B- 11C	C405	A- 7G	C807	B- 2C	TP413	B- 7I	K402	B- 6H		
C203	B- 11C	C406	A- 7G	C808	B- 3B	TP414	B- 7J	K403	B- 8G		
C204	B- 11C	C407	A- 7G	C809	A- 2B	TP415	B- 7H	K404	B- 7H		
C205	B- 11C	C408	A- 7G	C810	A- 4B	TP416	B- 7I	K405	B- 8I		
C206	A- 10D	C409	B- 7G	C811	B- 3B	TP417	B- 9H	K406	B- 7I		
C207	B- 10C	C411	B- 6H	C812	B- 3C	TP418	B- 9G	K407	B- 7I		
C208	A- 11D	C412	B- 8H	C813	B- 3C	TP419	B- 6H	K408	B- 9H		
C209	A- 10D	C413	B- 8H	C814	B- 4B	TP420	B- 5H	K409	B- 9I		
C210	B- 11D	C414	B- 8H	C815	A- 4B	TP421	B- 6H	K501	B- 7E		
C211	A- 11D	C415	B- 8H	C816	B- 3C	TP422	B- 7G	K502	B- 6C		
C212	A- 10D	C417	A- 8I	C817	A- 4B	TP423	B- 7J	K503	A- 8C		
C213	B- 11E	C418	A- 8I	C818	B- 4B	TP424	B- 9G	K504	B- 6E		
C214	A- 11D	C419	B- 8I	C821	B- 4D	TP425	B- 5H	K505	B- 6D		
C215	A- 11D	C420	A- 8H	C822	B- 3D	TP426	B- 8G	K506	B- 8C		
C216	B- 10C	C421	B- 8I	C826	B- 4D	TP427	B- 10F	K507	B- 6B		
C217	B- 10E	C422	B- 8F	C827	B- 3D	TP428	B- 7H	K508	B- 6B		
C218	A- 9D	C427	B- 7I	C828	B- 2C	TP429	B- 7J	K509	B- 7B		
C219	B- 9C	C429	A- 7I			TP430	B- 6J	K510	B- 7B		
C220	B- 9C	C430	B- 7I	VC301	B- 12J	TP431	B- 8F	K511	B- 6B		
C221	B- 9D	C431	A- 7I	VC401	B- 8J	TP432	B- 8H	K512	B- 6B		
C222	B- 9D	C432	A- 7I			TP501	B- 6E	K513	B- 5B		
C223	A- 10C	C433	A- 7I	L101	A- 13D	TP502	B- 7D	K514	B- 5B		
C224	A- 10D	C434	A- 7I	L102	A- 12D	TP503	B- 7C	K801	B- 1C		
C225	B- 10D	C435	B- 7I	L201	A- 11D	TP504	B- 6D	K802	B- 2C		
C226	B- 10C	C436	B- 7J	L202	A- 10D	TP505	B- 7C	K803	B- 3C		
C227	A- 10D	C437	B- 7J	L801	A- 11A	TP506	B- 6D	K804	B- 3C		
C301	B- 10H	C438	B- 8J	L802	B- 12A	TP507	B- 5C	K805	B- 4D		
C302	A- 10H	C439	B- 8I			TP508	B- 6A	K806	B- 3D		
C303	A- 10H	C440	B- 9I	TP101	B- 12D	TP509	B- 7A	K807	B- 4D		
C304	A- 10G	C441	B- 9I	TP102	B- 12E	TP511	B- 9C	K808	B- 4D		
C305	A- 10G	C442	B- 9J	TP103	B- 13E	TP512	B- 8B	K809	B- 2C		
C306	A- 10G	C443	B- 9H	TP104	B- 11E	TP515	B- 3F				
C307	A- 10G	C444	A- 9I	TP105	B- 12C	TP516	B- 4F	J1	A- 13B		
C308	A- 11G	C445	A- 9H	TP106	B- 11D	TP517	B- 4F				
C309	A- 11G	C446	B- 9I	TP107	B- 11C	TP518	B- 5D	FL301	A- 11J		
C311	B- 10H	C447	B- 7H	TP108	B- 13B	TP519	B- 6D	FL401	A- 8J		

4.19 PRE/REC SCHEMATIC DIAGRAM 06

— DIAGRAM 1/3 —





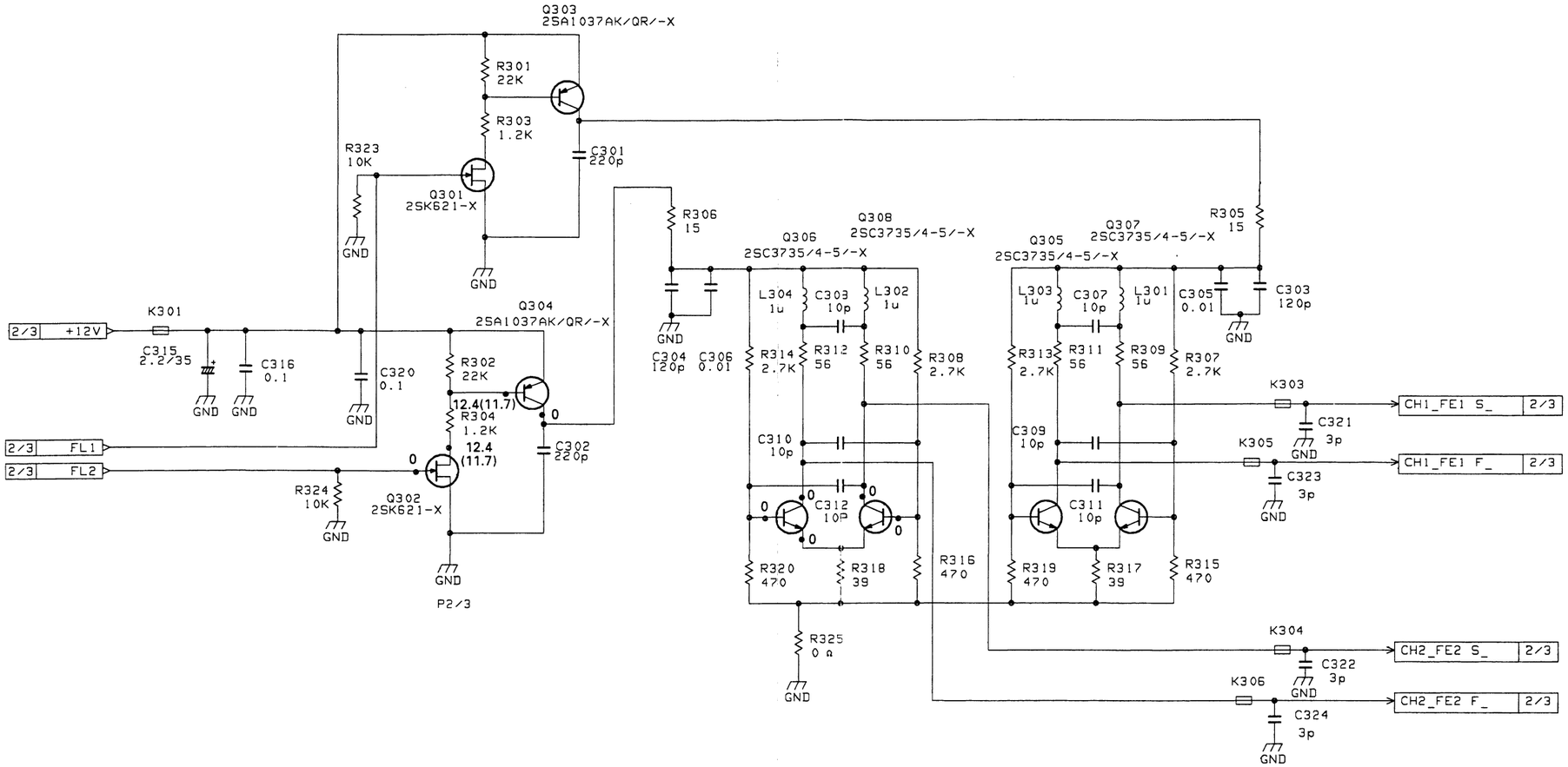
REC I	PBH	MODE
H	H	INSERT
H	L	REC
		RECCTL 0→H 1ch REC on
		RECCTL 2→H 2ch REC on
		RECCTL 0→L 1ch REC off
		RECCTL 2→L 2ch REC off
L	H	PB & HID
		H CH1 on CH2 off
		L CH2 on CH1 off
L	L	STB

VHC153 Truth Table

SELECT INPUT		INPUT(A or B)				OUTPUT
S0	S1	Ē	I0	I1	I2	I3	Z
X	X	H	X	X	X	X	L
L	L	L	L	X	X	X	L
L	L	L	H	X	X	X	H
H	L	L	X	L	X	X	L
H	L	L	X	H	X	X	H
L	H	L	X	X	L	X	L
L	H	L	X	X	H	X	H
H	H	L	X	X	X	L	L
H	H	L	X	X	X	H	H

H=HIGH Voltage Level
L=Low Voltage Level
X=Immaterial

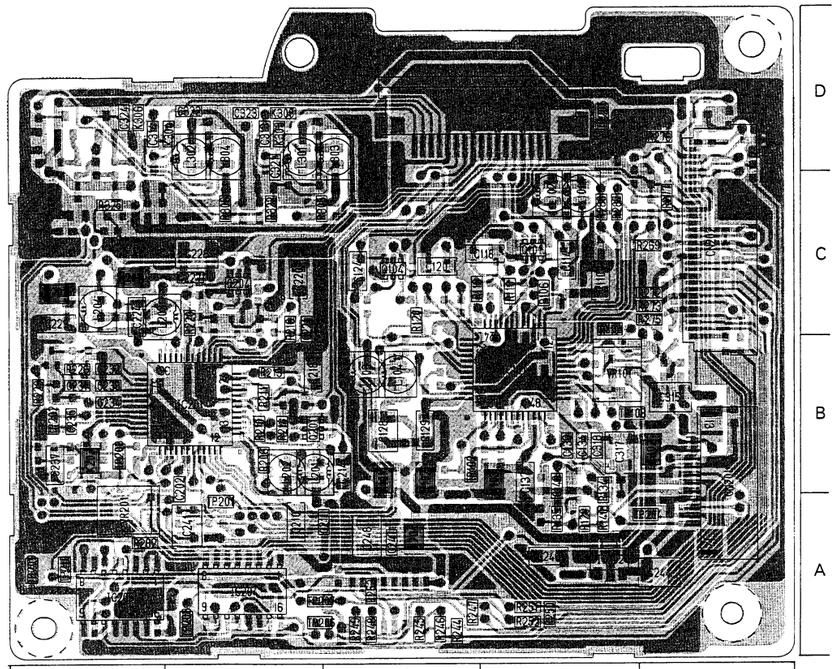
S0=REC ADJ L
S1=LOW Fix
E=LOW Fix


Q303
2SA1037AK/QR/-X
R301
22K
R303
1.2K
C301
220p
R323
10K
Q301
2SK621-X
GND
GND
R306
15
Q306
2SC3735/4-5/-X
Q308
2SC3735/4-5/-X
Q305
2SC3735/4-5/-X
Q307
2SC3735/4-5/-X
R305
15
K301
2/3 +12V
C315
2.2/35
C316
0.1
GND
GND
C320
0.1
GND
Q304
2SA1037AK/QR/-X
R302
22K
12.4(11.7)
R304
1.2K
12.4
(11.7)
C302
220p
2/3 FL1
2/3 FL2
R324
10K
Q302
2SK621-X
GND
GND
P2/3
C304
120p
C306
0.01
L304
1u
C303
10p
L302
1u
R314
2.7K
R312
56
R310
56
R308
2.7K
C310
10p
C312
10p
R320
470
R318
39
R316
470
R325
0 Ω
GND
L303
1u
C307
10p
L301
1u
C305
0.01
C303
120p
GND
R313
2.7K
R311
56
R309
56
R307
2.7K
K303
C321
3p
GND
CH1_FE1 S_
2/3
K305
C323
3p
GND
CH1_FE1 F_
2/3
C309
10p
C311
10p
R319
470
R317
39
R315
470
K304
C322
3p
GND
CH2_FE2 S_
2/3
K306
C324
3p
GND
CH2_FE2 F_
2/3

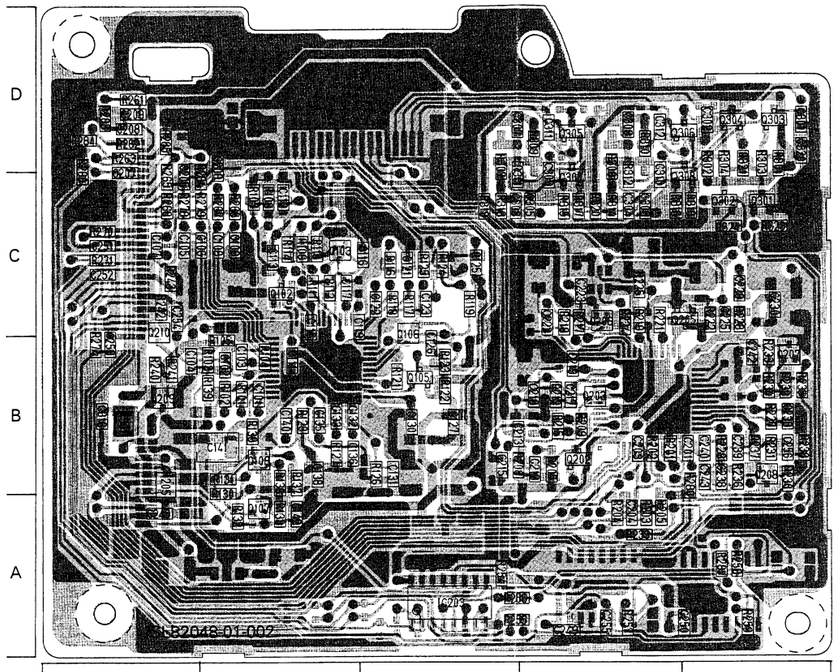
4-34

4.20 PRE/REC CIRCUIT BOARD

— SIDE A —

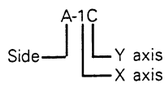


— SIDE B —



●ADDRESS TABLE OF BOARD PARTS

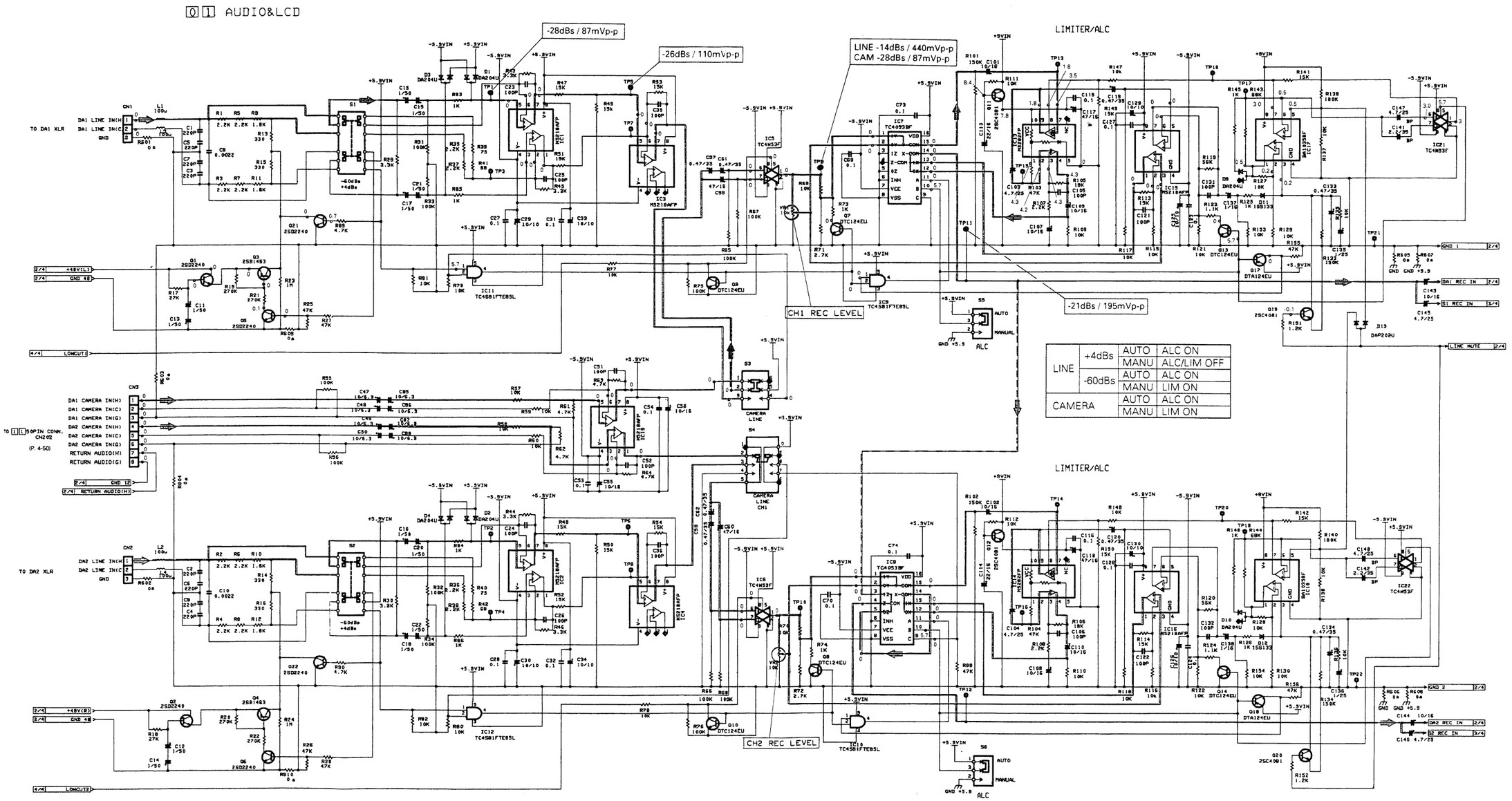
Each address may have an address error by one interval.



IC101	A- 2B	R101	B- 2B	R135	A- 2A	R229	A- 5B	R263	B- 1D	R310	B- 4D	C115	B- 2C	C206	B- 2D	C240	B- 5B	C318	A- 2B	CN201	A- 1B
IC201	A- 4B	R102	B- 2B	R136	B- 2B	R230	B- 5B	R264	B- 2C	R311	B- 4C	C116	B- 3C	C207	B- 1C	C241	A- 4A	C320	B- 5D	CN202	A- 1C
IC202	A- 2A	R103	B- 2B	R137	B- 2B	R231	B- 5B	R265	B- 1C	R312	B- 4C	C117	B- 2C	C208	B- 1D	C242	B- 5B	C321	A- 4D	CN203	A- 3D
IC203	B- 3A	R104	B- 2B	R138	B- 2B	R232	B- 5B	R266	B- 2C	R313	B- 3C	C118	A- 2C	C209	B- 1D	C243	B- 5B	C322	A- 4D		
IC204	A- 4A	R105	B- 2B	R139	B- 2B	R233	B- 5B	R267	B- 2C	R314	B- 4C	C119	B- 3C	C210	A- 4A	C244	A- 1A	C323	A- 4D	K101	A- 3B
IC205	A- 5A	R106	A- 2C	R140	A- 2A	R234	B- 5B	R268	B- 1C	R315	B- 4C	C120	A- 3C	C211	A- 4A	C245	B- 1A	C324	A- 5D	K102	A- 3B
		R107	B- 2C	R201	B- 4B	R235	B- 5B	R269	A- 1C	R316	B- 5C	C121	B- 3C	C212	B- 4B	C246	A- 2A			K103	A- 2B
Q101	A- 2C	R108	B- 2C	R202	B- 4B	R236	B- 5B	R270	B- 1C	R317	B- 4C	C122	B- 3C	C213	B- 4B	C247	A- 3A	L101	A- 2C	K201	A- 5C
Q102	B- 2C	R109	B- 2C	R203	B- 4A	R237	B- 5B	R271	B- 1C	R318	B- 5C	C123	B- 3C	C214	A- 3B	C248	A- 3A	L102	A- 2C	K202	A- 5C
Q103	B- 2C	R110	A- 2C	R204	B- 4A	R238	B- 5B	R272	A- 1C	R319	B- 3C	C124	A- 3C	C215	B- 3B	C249	B- 4A	L103	A- 3B	K203	A- 5B
Q104	A- 3C	R111	B- 2C	R205	B- 4A	R239	B- 4A	R273	A- 1C	R320	B- 4C	C125	B- 3C	C216	B- 4B	C250	B- 5A	L104	A- 3B	K204	A- 3A
Q105	B- 3B	R112	B- 2C	R206	A- 4B	R240	B- 1B	R274	B- 1B	R321	B- 5D	C126	B- 3B	C217	B- 4B	C251	B- 1C	L201	A- 4B	K205	B- 1B
Q106	B- 3B	R113	A- 3C	R207	B- 4B	R241	B- 1B	R275	A- 1C	R322	A- 4C	C127	B- 3B	C218	A- 4B	C252	B- 1C	L202	A- 4B	K301	B- 1B
Q107	B- 2A	R114	B- 2C	R208	B- 4B	R242	B- 1C	R276	A- 1D	R323	B- 5C	C128	A- 3B	C219	B- 4B	C253	B- 1B	L203	A- 5C	K302	A- 1B
Q108	B- 2B	R115	B- 2C	R209	B- 4B	R243	B- 1C	R277	A- 1C	R324	B- 5C	C129	A- 3B	C220	A- 4C	C254	B- 1C	L204	A- 5C	K303	A- 4D
Q201	A- 4B	R116	B- 3C	R210	A- 4B	R244	A- 3A	R278	B- 1C	R325	A- 5C	C130	B- 3B	C221	A- 4C	C255	B- 4A	L301	A- 4D	K304	A- 4D
Q202	B- 4B	R117	B- 3C	R211	A- 4B	R245	A- 3A	R279	B- 2C			C131	B- 3B	C222	B- 4C	C256	B- 5B	L302	A- 4D	K305	A- 4D
Q203	B- 4B	R118	B- 3C	R212	B- 4B	R246	A- 3A	R280	B- 5B	VR101	A- 2B	C132	B- 2B	C223	B- 4C	C301	B- 5D	L303	A- 3D	K306	A- 5D
Q204	A- 4C	R119	B- 3C	R213	A- 4B	R247	A- 3A	R281	B- 5A	VR201	A- 5A	C133	B- 2B	C224	A- 5C	C302	B- 5D	L304	A- 4D		
Q205	B- 5C	R120	A- 3C	R214	A- 4B	R248	A- 3A	R282	A- 5A			C134	A- 2B	C225	B- 5C	C303	B- 4C				
Q206	B- 4C	R121	B- 3B	R215	B- 4B	R249	A- 3A	R283	B- 1D	C101	B- 2B	C135	B- 2B	C226	B- 5C	C304	B- 4C	TP101	A- 2C		
Q207	B- 5B	R122	B- 3B	R216	A- 4C	R250	A- 2A	R284	B- 1D	C102	B- 2B	C136	B- 2B	C227	A- 4C	C305	B- 4C	TP102	A- 3B		
Q208	B- 5B	R123	B- 3B	R217	B- 4C	R251	A- 2A	R285	B- 1D	C103	B- 2B	C137	A- 2B	C228	A- 4C	C306	B- 4C	TP103	A- 2B		
Q209	B- 1B	R124	B- 3C	R218	B- 4C	R252	A- 2A	R286	A- 2C	C104	B- 1B	C138	B- 2B	C229	A- 5C	C307	B- 4D	TP201	A- 4A		
Q210	B- 1B	R125	B- 3C	R219	B- 4C	R253	A- 3A	R287	A- 2C	C105	B- 1C	C139	A- 2B	C230	B- 5C	C308	B- 4D	TP202	A- 5B		
Q301	B- 5C	R126	B- 3B	R220	A- 4C	R254	B- 3A	R301	B- 5D	C106	B- 2C	C140	B- 2B	C231	A- 5B	C309	B- 4C	TP203	A- 5B		
Q302	B- 5C	R127	B- 2B	R221	B- 4C	R255	B- 4A	R302	B- 5D	C107	B- 1C	C141	B- 2B	C232	A- 5B	C310	B- 4C	TP204	A- 1A		
Q303	B- 5D	R128	B- 2B	R222	B- 5C	R256	B- 4A	R303	B- 5D	C108	B- 2C	C142	B- 2A	C233	A- 5B	C311	B- 4D	TP205	A- 2D		
Q304	B- 5D	R129	A- 2A	R223	B- 5C	R257	B- 4A	R304	B- 5D	C109	B- 2C	C143	A- 2B	C234	A- 5B	C312	B- 4D	TP206	A- 4A		
Q305	B- 4D	R130	B- 2A	R224	B- 4C	R258	B- 5A	R305	A- 4C	C110	A- 2C	C201	B- 5B	C235	A- 5B	C313	A- 4D	TP207	A- 4A		
Q306	B- 5D	R131	B- 2B	R225	B- 4C	R259	B- 5A	R306	A- 4C	C111	B- 2B	C202	A- 4B	C236	B- 5B	C314	A- 5D	TP208	A- 4A		
Q307	B- 4C	R132	B- 2A	R226	A- 5B	R260	B- 1C	R307	B- 3D	C112	B- 2C	C203	B- 4B	C237	A- 5B	C315	A- 1B	TP209	A- 5A		
Q308	B- 5C	R133	B- 2A	R227	B- 5B	R261	B- 1D	R308	B- 4D	C113	B- 2C	C204	B- 4A	C238	B- 5B	C316	B- 1B	TP210	A- 5A		
		R134	A- 2B	R228	B- 5B	R262	B- 1D	R309	B- 4D	C114	A- 2C	C205	B- 1C	C239	B- 5B	C317	A- 2B				

4.21 AUDIO & LCD SCHEMATIC DIAGRAM 01

— DIAGRAM 1/4 —



01 AUDIO&LCD

IC208	NAME	SIGNAL		
		EE	REC	PB
4	REC/EE	L	H	L
5	PB/EE	L	L	H
6	SEARCH LOW	L:SEARCH		
7	SEARCH MUTE	H:SEARCH MUTE		
11	MUTE	H:MUTE		
13	DEEMPHASIS	H:DEEMPHASIS ON		
14	PB	H:PB MODE		

ADC

DAC

SEARCH AUDIO

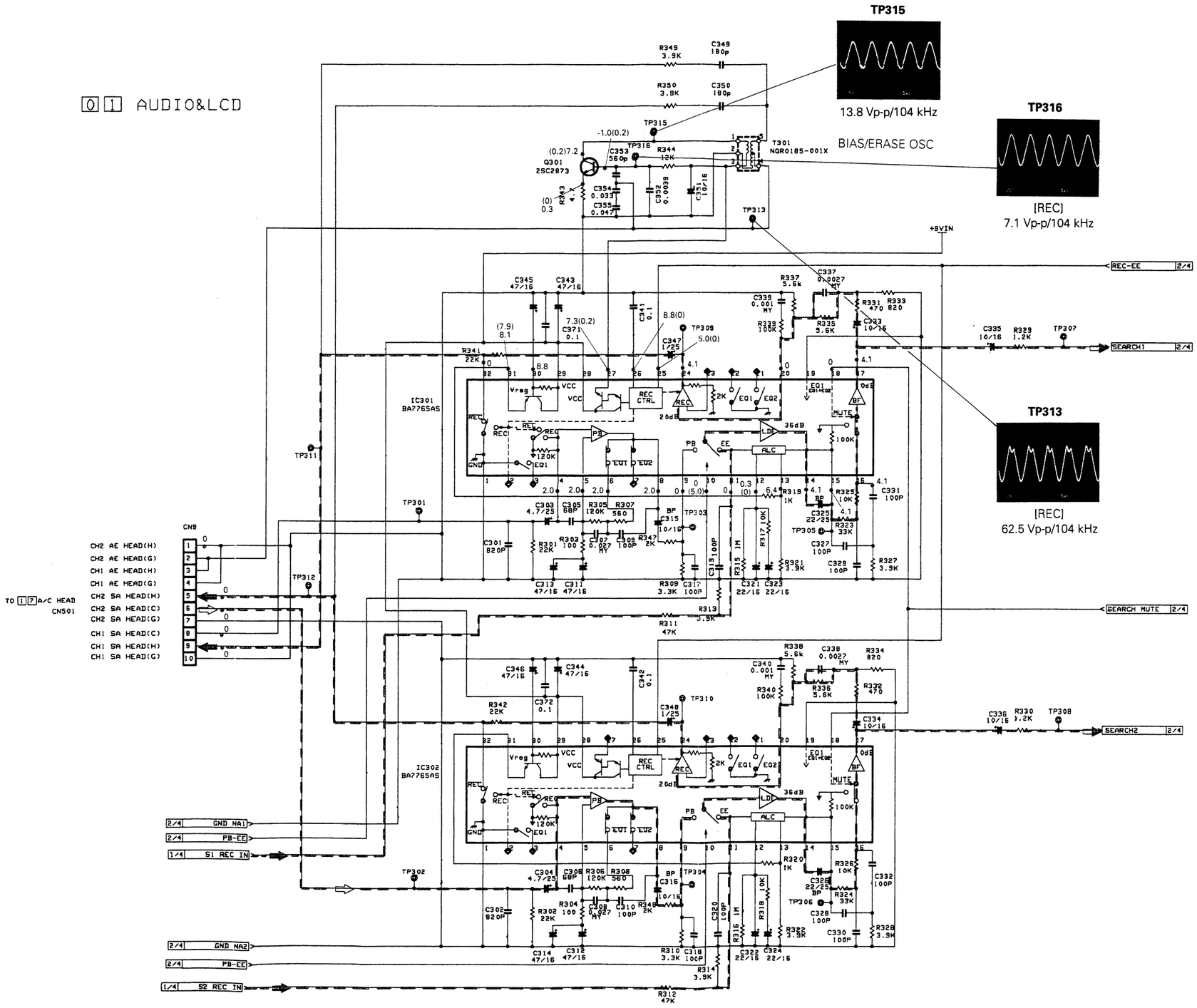
A1 OUT LEV

A2 OUT LEV

-6dBs / 1.1Vp-p

-6dBs / 1.1Vp-p

0 1 AUDIO&LCD


TP315
13.8 Vp-p/104 kHz
TP316
BIAS/ERASE OSC
[REC]
7.1 Vp-p/104 kHz
TP313
[REC]
62.5 Vp-p/104 kHz
+9VIN
REC-EE 2/4
SEARCH1 2/4
SEARCH2 2/4
SEARCH MUTE 2/4
GND NA1 2/4
PB-EE 2/4
S1 REC IN 1/4
GND NA2 2/4
PB-EE 2/4
S2 REC IN 1/4
IC301 BA7765AS
IC302 BA7765AS
Q301 2SC2873
T301 NQR0185-001X
CN8
CH2 AE HEAD(H)
CH2 AE HEAD(G)
CH1 AE HEAD(H)
CH1 AE HEAD(G)
CH2 SA HEAD(H)
CH2 SA HEAD(C)
CH2 SA HEAD(G)
CH1 SA HEAD(C)
CH1 SA HEAD(H)
CH1 SA HEAD(G)
TO 1 7 A/C HEAD CN501

— DIAGRAM 4/4 —

TP408
TP409
TP410
[FRP]

IC401
UPD78P58YGC

IC402
NJU6433F82-X

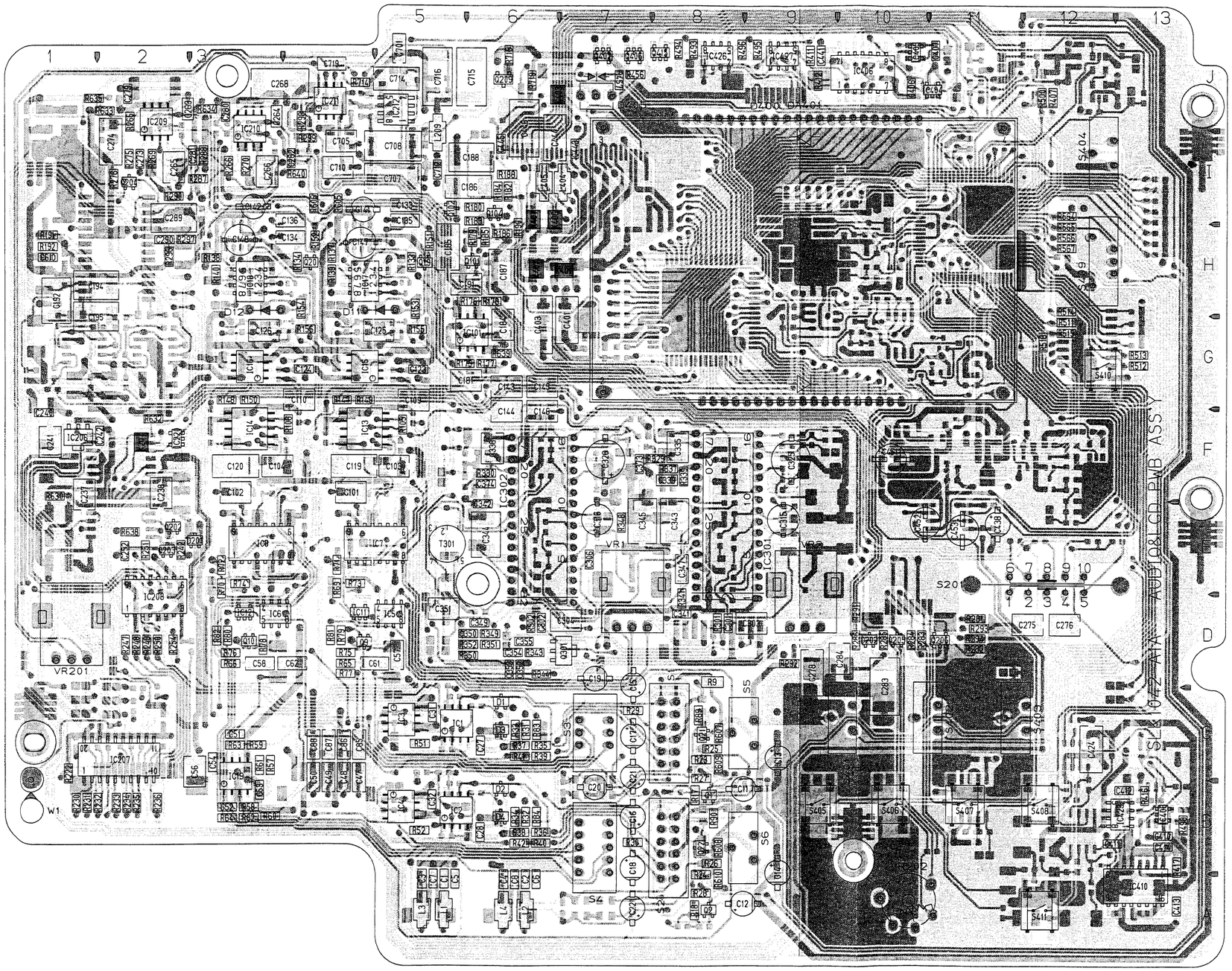
LCD MODULE
DA401
QLD0010-001

SUB CLK

0 1 AUDIO&LCD

4.22 AUDIO & LCD CIRCUIT BOARD

— SIDE A —



●ADDRESS TABLE OF BOARD PARTS

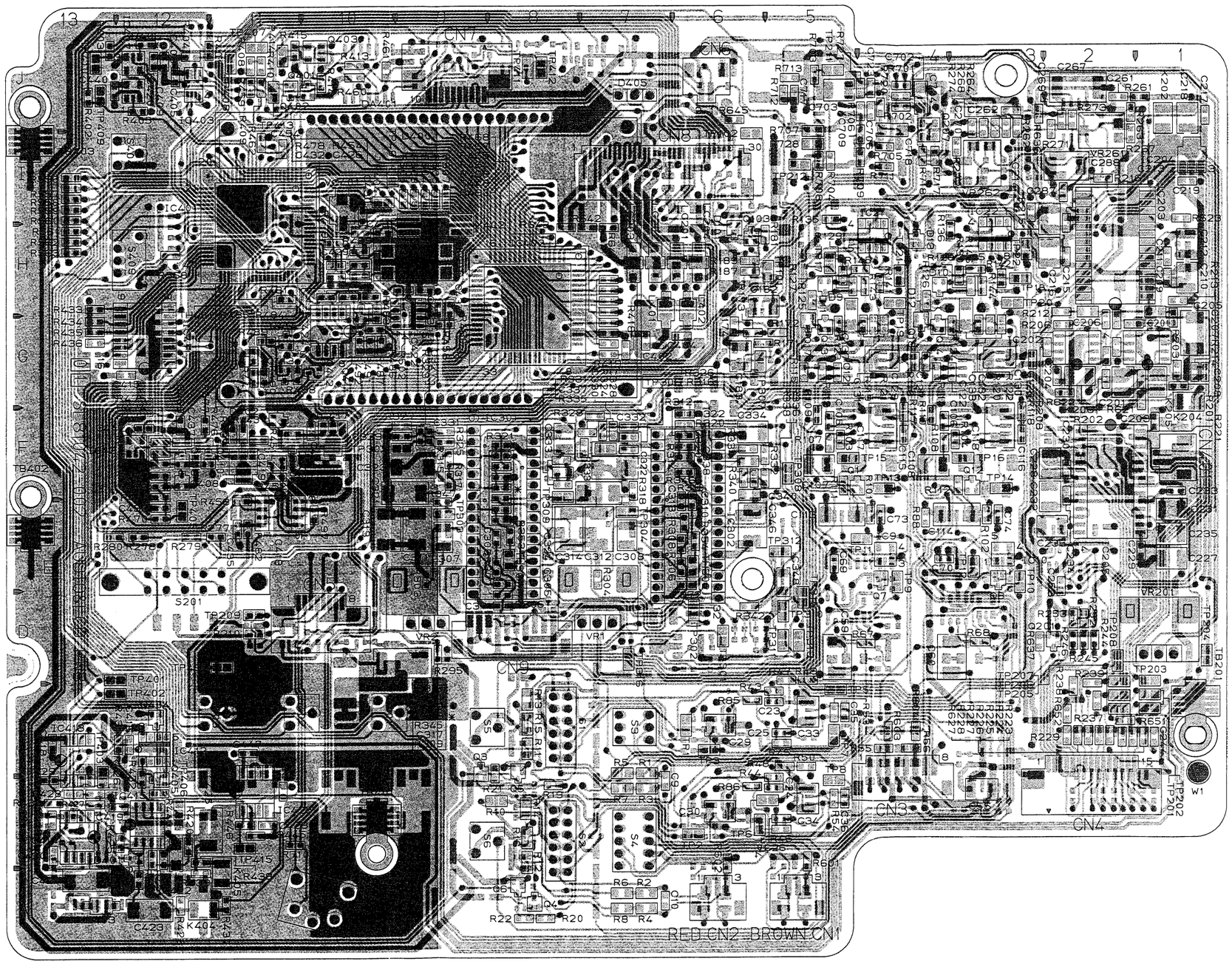
Each address may have an address error by one interval.

A-1C
Side — Y axis
X axis

C1	A- 5C	Q204	A- 2I	R50	B- 5C	R153	A- 5G	R278	B- 12E	R416	A- 13B
IC2	A- 5B	Q205	A- 10D	R51	A- 5C	R154	A- 4G	R279	B- 12E	R417	A- 13B
IC3	A- 5C	Q206	A- 11D	R52	A- 5B	R155	A- 5G	R280	B- 13E	R418	B- 7G
IC4	A- 5B	Q207	B- 4I	R53	B- 5C	R156	A- 4G	R281	A- 11D	R419	B- 7G
IC5	A- 5D	Q209	A- 6J	R54	B- 5B	R171	B- 6G	R282	A- 11D	R420	B- 12B
IC6	A- 4D	Q301	A- 7D	R55	B- 4C	R172	B- 5G	R283	A- 11D	R421	B- 12B
IC7	A- 4E	Q401	B- 11J	R56	B- 4C	R173	B- 6G	R284	A- 10D	R422	B- 12B
IC8	A- 3E	Q402	B- 11J	R57	A- 3C	R174	B- 6G	R285	A- 10D	R423	B- 12A
IC9	B- 4E	Q403	B- 10J	R58	A- 3B	R175	A- 6G	R286	A- 10D	R424	B- 12A
IC10	B- 3E	Q404	B- 12C	R59	A- 3C	R176	A- 6G	R287	A- 3I	R425	B- 13B
IC11	A- 4D	Q405	B- 12B	R60	A- 3B	R177	A- 6G	R288	A- 3I	R426	B- 13B
IC12	A- 3D	Q406	A- 7J	R61	A- 3C	R178	A- 6G	R290	A- 2I	R427	B- 13B
IC13	A- 4F	Q407	A- 7J	R62	A- 3B	R179	A- 6H	R291	A- 10D	R428	B- 13B
IC14	A- 3F	Q408	B- 12F	R63	A- 3C	R180	A- 6H	R292	A- 9D	R429	B- 13B
IC15	A- 4G	Q409	B- 12F	R64	A- 3B	R181	B- 6H	R293	A- 11D	R430	B- 13B
IC16	A- 3G	Q410	B- 12F	R65	A- 4D	R182	A- 6I	R294	A- 11D	R431	B- 13C
IC17	A- 4G	Q411	B- 10G	R66	A- 3D	R183	A- 6H	R295	B- 9D	R432	B- 12B
IC18	A- 3G	Q412	B- 10G	R67	B- 4D	R184	A- 6I	R296	A- 2H	R433	B- 13G
IC19	A- 3B	Q413	B- 11G	R68	B- 3D	R185	A- 6H	R297	A- 3H	R434	B- 13G
IC21	B- 4H	Q414	B- 11G	R69	A- 4D	R186	A- 6H	R298	A- 4I	R435	B- 13G
IC22	B- 3H	Q415	A- 8J	R70	A- 3D	R187	B- 6H	R299	A- 4I	R436	B- 13G
IC101	A- 6G			R71	A- 4E	R188	A- 6I	R301	A- 8D	R437	B- 11A
IC201	B- 1G	D1	A- 6C	R72	A- 3E	R189	B- 6H	R302	A- 6D	R438	B- 12A
IC202	B- 2G	D2	A- 6B	R73	A- 4D	R190	A- 6H	R303	B- 9D	R439	B- 12A
IC203	B- 2G	D3	A- 6C	R74	A- 3D	R191	A- 1H	R304	B- 7D	R440	B- 12B
IC204	B- 1I	D4	A- 6B	R75	A- 4D	R192	A- 1H	R305	B- 8D	R441	B- 11G
IC205	B- 2F	D9	B- 5H	R76	A- 3D	R201	B- 1F	R306	B- 6E	R442	B- 11G
IC206	A- 1F	D10	B- 4H	R77	A- 4D	R202	B- 2G	R307	B- 8E	R443	B- 11F
IC207	A- 1C	D11	A- 4G	R78	A- 3D	R203	B- 1G	R308	B- 6E	R444	B- 11B
IC208	A- 2D	D12	A- 3G	R79	A- 4D	R204	B- 2G	R309	B- 8E	R445	B- 11B
IC209	A- 2I	D13	B- 4H	R80	A- 3D	R205	B- 2G	R310	B- 8E	R446	B- 11B
IC210	A- 3I	D101	B- 6H	R81	A- 4D	R206	B- 2G	R311	B- 8F	R451	B- 11F
IC211	A- 4I	D201	A- 3E	R82	A- 3D	R207	B- 2G	R312	B- 6F	R452	B- 11F
IC212	A- 5I	D202	A- 10D	R83	A- 6C	R208	B- 3G	R313	B- 8E	R453	B- 11E
IC220	A- 2F	D400	A- 9H	R84	A- 6B	R209	B- 1G	R314	B- 6F	R454	B- 10H
IC301	A- 9D	D401	B- 12B	R85	B- 6C	R210	B- 2G	R315	B- 9F	R455	B- 10H
IC302	A- 7D	D402	B- 11F	R86	B- 6B	R211	B- 2G	R316	B- 7F	R456	A- 7J
IC401	B- 11H	D403	B- 11F	R88	B- 4E	R212	B- 2G	R317	B- 9E	R457	A- 7J
IC402	B- 8G	D404	B- 11F	R89	A- 8C	R213	B- 1G	R318	B- 7E	R458	B- 9G
IC403	B- 12J	D405	A- 7J	R90	A- 8B	R214	B- 1G	R319	B- 8F	R459	B- 11J
IC404	A- 11J			R101	B- 4E	R215	B- 3H	R320	B- 6F	R460	B- 10J
IC405	A- 10J	R1	B- 7B	R102	B- 3E	R216	B- 2I	R321	B- 8F	R461	B- 10J
IC406	A- 10J	R2	B- 7A	R103	B- 5F	R221	B- 1F	R322	B- 6F	R462	B- 11I
IC407	B- 12J	R3	B- 7B	R104	B- 4F	R222	A- 1C	R323	B- 9F	R463	B- 7G
IC408	A- 13B	R4	B- 7A	R105	A- 5F	R223	B- 1C	R324	B- 7F	R464	B- 7G
IC410	A- 13A	R5	B- 7B	R106	A- 4F	R224	B- 2C	R325	B- 9F	R465	B- 7G
IC411	B- 12G	R6	B- 7A	R107	B- 5F	R225	B- 2C	R326	B- 7F	R466	B- 7G
IC412	B- 12C	R7	B- 7B	R108	B- 4F	R226	B- 2C	R327	B- 10F	R467	B- 7G
IC413	B- 13C	R8	B- 7A	R109	B- 5F	R227	B- 2C	R328	B- 7F	R468	B- 7H
IC414	B- 13B	R9	A- 8C	R110	B- 4F	R228	B- 2C	R329	A- 8F	R469	B- 11F
IC415	B- 12B	R10	B- 8B	R111	B- 5E	R229	B- 2C	R330	A- 6F	R470	B- 12E
IC417	B- 10F	R11	B- 8C	R112	B- 3E	R230	A- 1B	R331	B- 8F	R471	B- 12E
IC418	B- 11E	R12	B- 8A	R113	B- 5G	R231	A- 1B	R332	B- 6F	R472	B- 12F
IC419	B- 11F	R13	B- 8C	R114	B- 4G	R232	A- 2B	R333	B- 8F	R473	B- 12F
IC420	B- 12J	R14	B- 8B	R115	B- 5G	R233	A- 2B	R334	B- 6F	R474	B- 12F
IC421	B- 12F	R15	B- 8C	R116	B- 4G	R234	A- 2B	R335	B- 8E	R475	B- 12F
IC422	B- 9G	R16	B- 8B	R117	B- 4F	R235	A- 2B	R336	B- 6F	R476	B- 12F
IC423	A- 13B	R17	A- 8B	R118	B- 3F	R236	A- 2B	R337	A- 8F	R477	B- 12F
IC424	B- 10G	R18	A- 8A	R119	B- 4G	R237	B- 2C	R338	B- 6F	R478	B- 10H
IC425	B- 11B	R19	B- 8B	R120	B- 3G	R238	B- 2C	R339	A- 8F	R479	B- 10H
IC426	A- 8J	R20	B- 8A	R121	B- 4G	R239	B- 2C	R340	B- 6F	R480	B- 9G
IC427	A- 9J	R21	B- 8B	R122	B- 3G	R242	A- 2E	R341	A- 8D	R481	B- 11G
		R22	B- 8A	R123	B- 5G	R244	B- 2D	R342	B- 6D	R482	B- 11E
Q1	A- 8B	R23	A- 8C	R124	B- 4G	R245	B- 2D	R343	A- 6D	R483	B- 10G
Q2	A- 8A	R24	A- 8A	R125	B- 5G	R246	B- 2D	R344	A- 6D	R484	B- 10G
Q3	B- 9B	R25	A- 8C	R126	B- 4G	R247	A- 2D	R345	B- 8E	R485	B- 10G
Q4	B- 8A	R26	A- 8B	R127	B- 5H	R248	A- 2D	R346	B- 6F	R486	B- 10G
Q5	B- 8B	R27	A- 8B	R128	B- 3H	R249	A- 2D	R347	B- 9E	R487	B- 10G
Q6	B- 8A	R28	A- 8A	R129	B- 5H	R250	A- 2D	R348	A- 7E	R488	B- 11G
Q7	B- 4D	R29	A- 7C	R130	B- 3H	R251	A- 2E	R349	A- 6D	R489	B- 11G
Q8	B- 3D	R30	A- 7B	R133	A- 5H	R252	B- 2D	R350	A- 6D	R490	B- 11G
Q9	A- 4D	R31	A- 6C	R134	A- 4H	R253	B- 2D	R351	A- 6D	R491	B- 10G
Q10	A- 3D	R32	A- 6B	R135	B- 5H	R254	A- 2D	R352	A- 6D	R492	B- 10G
Q11	B- 5E	R33	A- 6C	R136	B- 4H	R261	B- 2J	R353	B- 8E	R493	A- 8J
Q12	B- 3E	R34	A- 6B	R137	A- 4H	R262	B- 3I	R354	B- 6E	R494	A- 8J
Q13	B- 5G	R35	A- 6C	R138	A- 3H	R263	B- 2I	R401	B- 12J	R495	A- 9J
Q14	B- 4G	R36	A- 6B	R139	A- 4H	R264	B- 3I	R402	B- 13J	R496	A- 9J
Q17	B- 5G	R37	A- 6C	R140	A- 3H	R265	A- 2I	R403	B- 13J	R497	B- 10E
Q18	B- 4G	R38	A- 6B	R141	B- 4H	R266	A- 3I	R404	B- 12J	R498	A- 13B
Q19	A- 5H	R39	A- 6C	R142	B- 3H	R267	B- 2I	R405	B- 12I	R499	B- 12F
Q20	A- 4H	R40	A- 6B	R143	B- 4H	R268	B- 3I	R406	B- 12J	R500	A- 12J
Q21	A- 8C	R41	A- 6C	R144	B- 3H	R269	A- 2I	R407	A- 12J	R502	B- 9G
Q22	A- 8B	R42	A- 6B	R145	B- 5H	R270	A- 3I	R408	B- 11J	R503	B- 9H
Q101	A- 6H	R43	B- 5C	R146	B- 3H	R271	B- 2I	R409	B- 11J	R504	B- 9H
Q102	A- 5H	R44	B- 5B	R147	A- 4F	R272	B- 3I	R410	B- 11J	R505	B- 9H
Q103	B- 6H	R45	B- 5C	R148	A- 3F	R273	B- 2I	R411	A- 9J	R506	B- 9H
Q104	A- 6H	R46	B- 5B	R149	A- 4F	R274	B- 3I	R412	A- 9J	R507	B- 9H
Q201	B- 2D	R47	B- 5C	R150	A- 3F	R275	A- 2I	R413	B- 10J	R511	A- 12G
Q202	A- 2E	R48	B- 5C	R151	A- 5H	R276	A- 2I	R414	B- 10J	R512	A- 13G
Q203	A- 2E	R49	B- 5C	R152	A- 4H	R277	B- 12E	R415	B- 11J	R513	A- 13G

4-40

— SIDE B —



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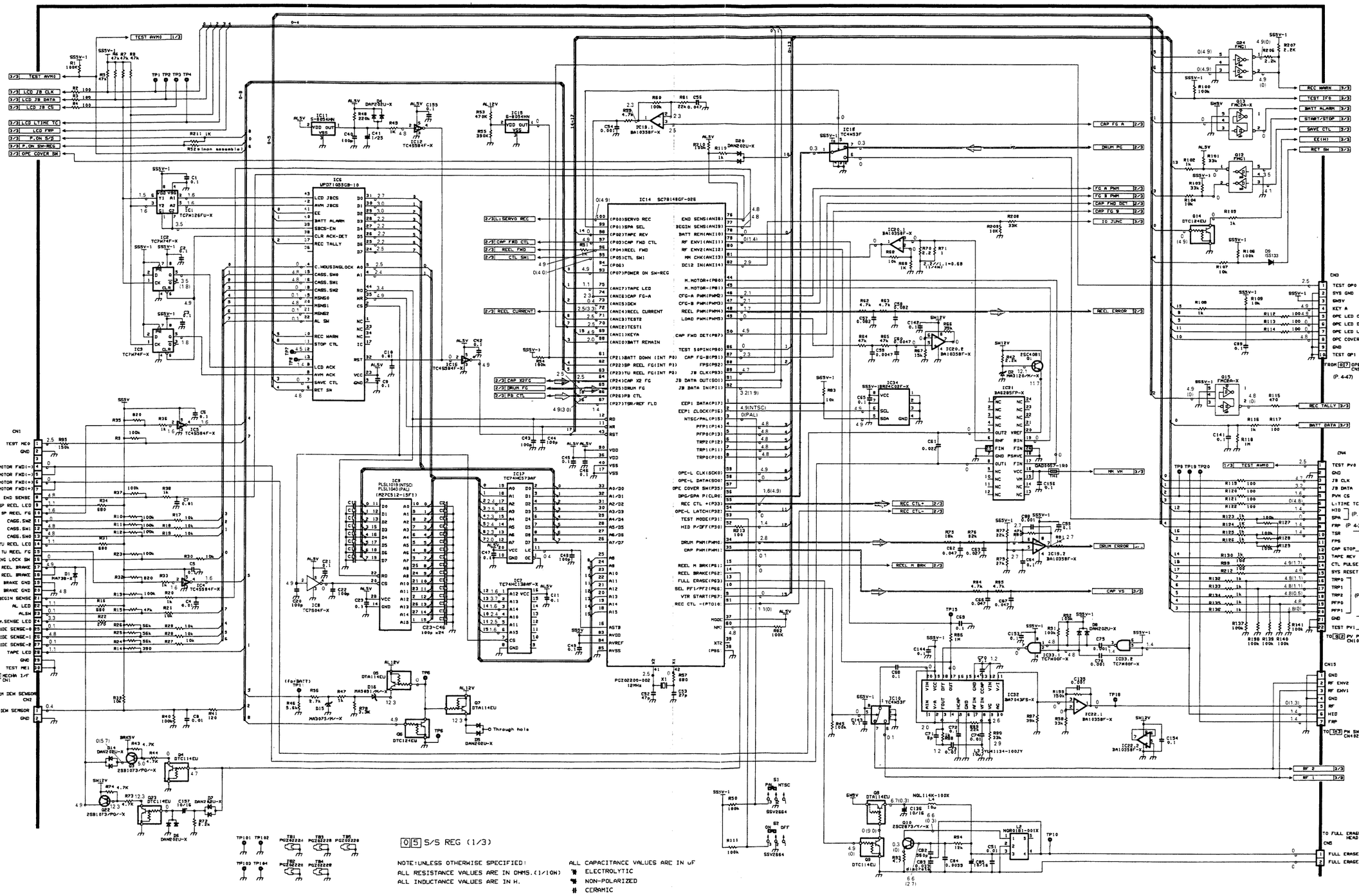
R515	A- 12G	C17	A- 7C	C183	B- 6G	C318	B- 6E	C451	A- 10F	TP404	B- 10H
R516	A- 12G	C18	A- 7A	C184	A- 6G	C319	B- 8F	C452	A- 11E	TP405	B- 12E
R556	B- 13I	C19	A- 7C	C185	A- 5H	C320	B- 6F	C453	A- 11E	TP406	B- 12B
R557	B- 13I	C20	A- 7B	C186	A- 6I	C321	B- 9E	C454	B- 11I	TP407	B- 11J
R558	B- 13I	C21	A- 7B	C187	A- 6H	C322	B- 7F	C701	A- 5J	TP408	B- 11J
R559	B- 13H	C22	A- 7A	C188	A- 6I	C323	B- 9F	C702	B- 4J	TP409	B- 13J
R560	B- 13H	C23	B- 5C	C191	A- 6H	C324	B- 7E	C703	B- 5J	TP410	B- 13J
R561	B- 13H	C24	B- 5B	C192	A- 1G	C325	A- 9F	C704	B- 4J	TP411	B- 8J
R562	B- 13H	C25	B- 5C	C193	A- 1H	C326	A- 7F	C705	A- 4I	TP412	B- 8J
R563	B- 13H	C26	B- 5B	C194	A- 2H	C327	B- 9F	C706	B- 4I	TP413	B- 11J
R564	A- 12H	C27	A- 6C	C195	A- 2G	C328	B- 7F	C707	A- 5I	TP414	B- 11J
R565	A- 12H	C28	A- 6B	C201	B- 2G	C329	B- 10F	C708	A- 5I	TP415	B- 11B
R566	A- 12H	C29	B- 6C	C203	B- 2G	C330	B- 7F	C709	B- 5I	TP491	B- 10I
R567	A- 12H	C30	B- 6B	C204	B- 2G	C331	B- 9F	C710	A- 4I	TP492	B- 11D
R568	B- 12H	C31	A- 5C	C205	B- 1G	C332	B- 7F	C712	A- 5I		
R601	B- 5A	C32	A- 5B	C206	B- 2G	C333	B- 8F	C714	A- 5J	DA401	A- 9H
R602	B- 6A	C33	B- 5C	C207	B- 1G	C334	B- 6F	C715	A- 6J		
R603	B- 4C	C34	B- 5B	C208	B- 1G	C335	A- 8F	C716	A- 5J	S1	A- 8C
R604	B- 4C	C35	B- 5C	C209	B- 1H	C336	A- 6F	C717	B- 5J	S2	A- 8B
R605	A- 4H	C36	B- 5B	C210	B- 1H	C337	B- 8F	C718	B- 4I	S3	A- 7C
R606	A- 4H	C47	A- 4B	C211	B- 1H	C338	B- 6F	C719	A- 4J	S4	A- 7B
R607	A- 8C	C48	A- 4B	C212	B- 1H	C339	A- 8F	C723	B- 4J	S5	A- 9C
R608	A- 8B	C49	A- 4B	C213	B- 2H	C340	B- 6E			S6	A- 9B
R609	A- 8C	C50	A- 4B	C214	B- 3H	C341	A- 8D	VC401	B- 10H	S201	A- 12D
R610	A- 8A	C51	A- 3C	C215	B- 2H	C342	A- 6E			S401	A- 10C
R621	B- 2F	C52	A- 3B	C216	B- 3H	C343	A- 8E	L1	A- 5A	S402	A- 11C
R622	B- 2F	C53	A- 3B	C217	B- 1I	C344	A- 6E	L2	A- 6A	S403	A- 12C
R623	B- 1H	C54	A- 3C	C218	B- 1I	C345	A- 7E	L3	A- 5A	S404	A- 12I
R627	B- 2C	C55	B- 3B	C219	B- 1I	C346	B- 6E	L4	A- 6A	S405	A- 9B
R630	A- 1E	C56	A- 3C	C227	B- 1E	C347	A- 8E	L209	A- 5I	S406	A- 10B
R632	A- 2F	C57	A- 5D	C228	B- 2F	C348	B- 5D	L401	B- 7G	S407	A- 11B
R633	A- 2I	C58	A- 3D	C229	B- 2E	C349	A- 6D	L402	B- 6G	S408	A- 12B
R634	A- 3I	C59	B- 5D	C230	B- 2F	C350	A- 6D	L403	B- 13A	S409	A- 12H
R635	A- 2J	C60	B- 4D	C231	B- 1E	C351	A- 5D	L404	A- 7I	S410	A- 12G
R636	B- 3I	C61	A- 5D	C232	B- 2E	C352	A- 6D	L405	A- 6I	S411	A- 12A
R637	B- 3D	C62	A- 4D	C233	B- 1E	C353	A- 6D				
R638	A- 2E	C69	B- 5E	C234	B- 2E	C354	A- 6D	TP1	B- 6C	T301	A- 5E
R639	A- 6G	C70	B- 4E	C235	B- 1E	C355	A- 6D	TP2	B- 6B		
R640	A- 4I	C73	B- 4E	C236	B- 2E	C371	B- 8D	TP3	B- 6C	TB201	B- 1C
R641	B- 7H	C74	B- 3E	C237	A- 1E	C372	B- 6D	TP4	B- 6B	TB401	B- 10B
R642	B- 7H	C85	A- 4C	C238	A- 2E	C373	A- 7F	TP5	B- 5C	TB402	B- 13E
R643	B- 8H	C86	A- 4C	C240	A- 1F	C374	A- 6E	TP6	B- 6B	TB403	B- 13I
R645	B- 6I	C87	A- 4C	C241	A- 1F	C401	A- 7G	TP7	B- 5C		
R651	B- 2C	C88	A- 4D	C242	A- 2F	C402	B- 7G	TP8	B- 5B	TH301	B- 8E
R652	B- 2C	C101	A- 4E	C244	B- 1C	C403	A- 6G	TP9	B- 4D	TH302	B- 6E
R701	B- 4J	C102	A- 3E	C252	A- 2E	C404	B- 6G	TP10	B- 3D	TH401	B- 10G
R702	B- 4I	C103	A- 5F	C253	B- 2D	C405	B- 12J	TP11	B- 5E		
R703	B- 5J	C104	A- 4F	C261	B- 2J	C406	A- 10J	TP12	B- 3E	CN1	B- 5A
R704	B- 5I	C105	B- 5F	C262	B- 3I	C407	A- 11J	TP13	B- 4E	CN2	B- 6A
R705	B- 4I	C106	B- 4F	C263	A- 3I	C408	B- 12J	TP14	B- 3E	CN3	B- 4B
R706	B- 5I	C107	B- 5F	C264	A- 4I	C409	B- 12J	TP15	B- 5F	CN4	B- 2B
R707	B- 5I	C108	B- 4F	C265	A- 2I	C410	A- 13B	TP16	B- 3F	CN5	B- 10D
R708	B- 5I	C109	A- 5F	C266	A- 3I	C411	A- 13B	TP17	B- 5H	CN6	B- 6J
R709	B- 5I	C110	A- 4F	C267	B- 2J	C412	A- 13B	TP18	B- 3H	CN7	B- 9J
R710	B- 11B	C113	B- 5E	C268	A- 4J	C413	A- 13A	TP19	B- 4G	CN8	B- 7I
R711	B- 4I	C114	B- 3E	C269	B- 2I	C414	A- 13B	TP20	B- 3G	CN9	B- 8D
R712	B- 5J	C115	B- 4F	C270	B- 3I	C415	B- 12G	TP21	B- 4H	CN401	B- 1F
R713	B- 5J	C116	B- 3F	C273	A- 2I	C416	B- 12C	TP22	B- 3H		
R714	A- 4J	C117	B- 4F	C274	A- 2I	C418	B- 13C	TP101	B- 6H	LC201	B- 7H
R715	A- 6J	C118	B- 3F	C275	A- 12D	C419	B- 13B	TP102	B- 6I	LC202	B- 7H
R717	B- 4I	C119	A- 4F	C276	A- 12D	C420	B- 13B	TP201	B- 1C	LC203	B- 7H
R718	B- 4I	C120	A- 3F	C277	B- 9D	C421	B- 13A	TP202	B- 1C	LC204	B- 6H
R719	A- 6J	C121	B- 5G	C278	A- 9D	C422	B- 12B	TP203	B- 1C		
R720	B- 4I	C122	B- 4G	C279	A- 2J	C423	B- 12A	TP204	B- 1D	K202	B- 1I
R727	B- 5J	C123	A- 5G	C280	A- 3I	C424	A- 12C	TP205	B- 2C	K204	B- 1F
R728	B- 5I	C124	A- 4G	C281	A- 3I	C425	B- 12B	TP206	B- 2C	K205	B- 1G
		C125	A- 5G	C282	A- 4I	C426	B- 10H	TP207	B- 2C	K206	B- 2G
VR1	A- 7D	C126	A- 3G	C283	A- 10C	C428	B- 11B	TP208	B- 2D	K207	A- 2F
VR2	A- 9D	C127	B- 4G	C284	A- 10D	C429	B- 10H	TP209	B- 11D	K401	A- 7H
VR201	A- 1D	C128	B- 3G	C287	B- 2I	C430	B- 10H	TP210	B- 11D	K402	A- 6H
VR202	A- 10A	C129	B- 4G	C288	B- 2I	C431	B- 10H	TP211	B- 5J	K403	A- 7J
VR261	B- 2I	C130	B- 3G	C289	A- 2H	C432	B- 10H	TP212	B- 5I	K404	B- 12A
VR262	B- 3I	C131	B- 5G	C290	A- 2H	C433	B- 9G	TP301	B- 6D	K405	B- 11A
		C132	B- 3G	C301	A- 8D	C434	B- 9G	TP302	B- 6D	K406	A- 7H
C1	A- 5A	C133	A- 5H	C302	A- 6D	C435	B- 11E	TP303	B- 9E	K407	A- 6H
C2	A- 6A	C134	A- 4H	C303	A- 9D	C436	B- 12E	TP304	B- 7E		
C3	A- 5A	C135	A- 5H	C304	A- 7D	C437	B- 12F	TP305	B- 10F	W1	A- 1B
C4	A- 6A	C136	A- 4H	C305	B- 8D	C438	A- 11E	TP306	B- 7F		
C5	A- 5A	C137	B- 5G	C306	A- 7E	C439	B- 12E	TP307	B- 6G	X401	B- 9H
C6	A- 6A	C138	B- 3G	C307	B- 9E	C440	B- 13J	TP308	B- 5F	X402	B- 9H
C7	A- 5A	C141	A- 4H	C308	B- 7E	C441	A- 9J	TP309	B- 8E		
C8	A- 6A	C142	A- 3H	C309	B- 8E	C442	B- 12F	TP310	B- 5D		
C9	B- 7B	C143	A- 6G	C310	B- 8E	C443	A- 7I	TP311	B- 5D		
C10	B- 7A	C144	A- 6F	C311	B- 9E	C444	A- 7I	TP312	B- 5E		
C11	A- 9B	C145	A- 6G	C312	B- 7E	C445	A- 6I	TP313	B- 5D		
C12	A- 9A	C146	A- 6F	C313	B- 10E	C446	A- 6I	TP315	B- 5D		
C13	A- 9C	C147	A- 4H	C314	B- 8E	C447	B- 11C	TP316	B- 7D		
C14	A- 9A	C148	A- 3H	C315	A- 9E	C448	B- 7G	TP401	B- 13C		
C15	A- 7C	C181	A- 6G	C316	A- 7E	C449	B- 13B	TP402	B- 13C		

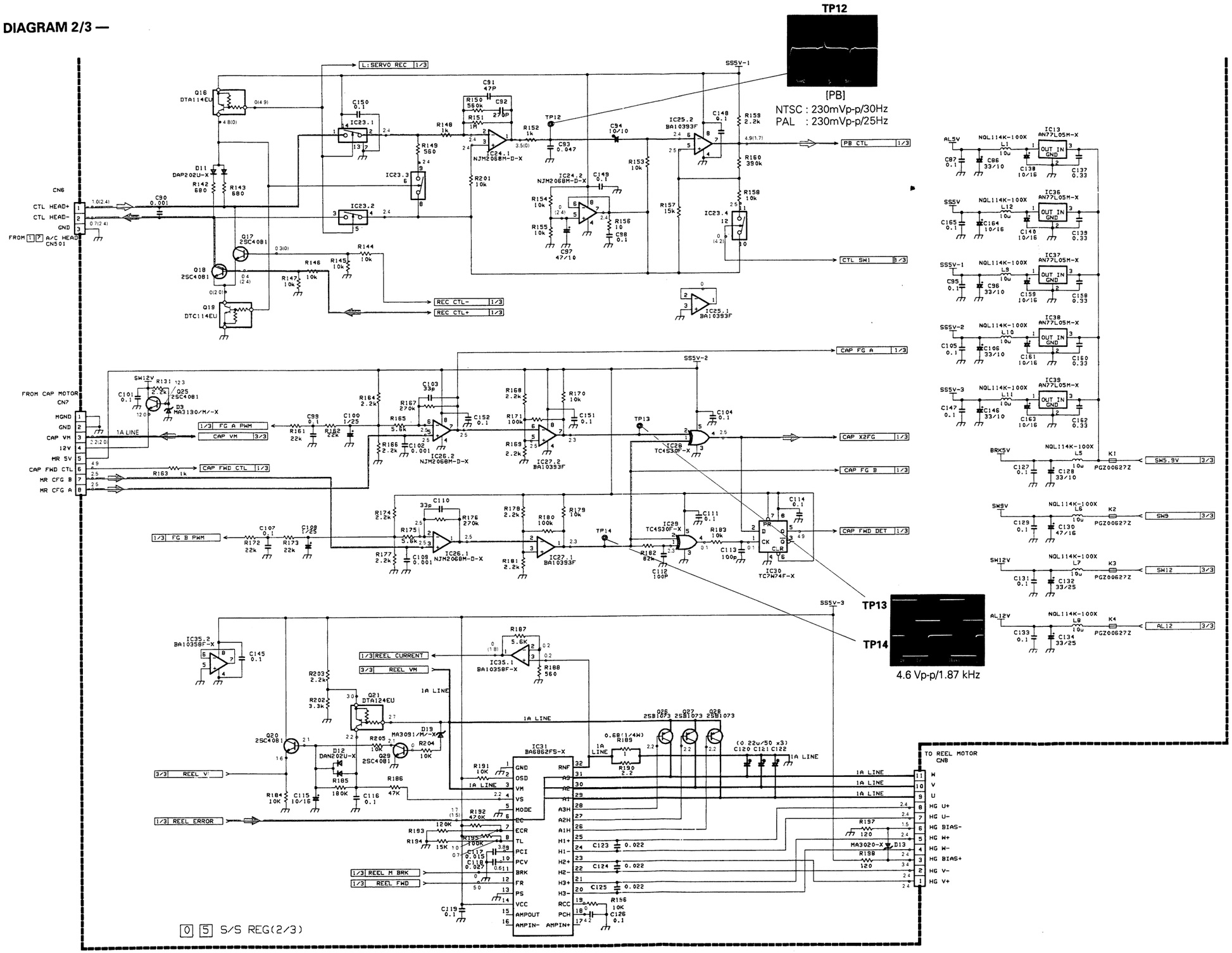
4.23 S/S REG SCHEMATIC DIAGRAM [05]

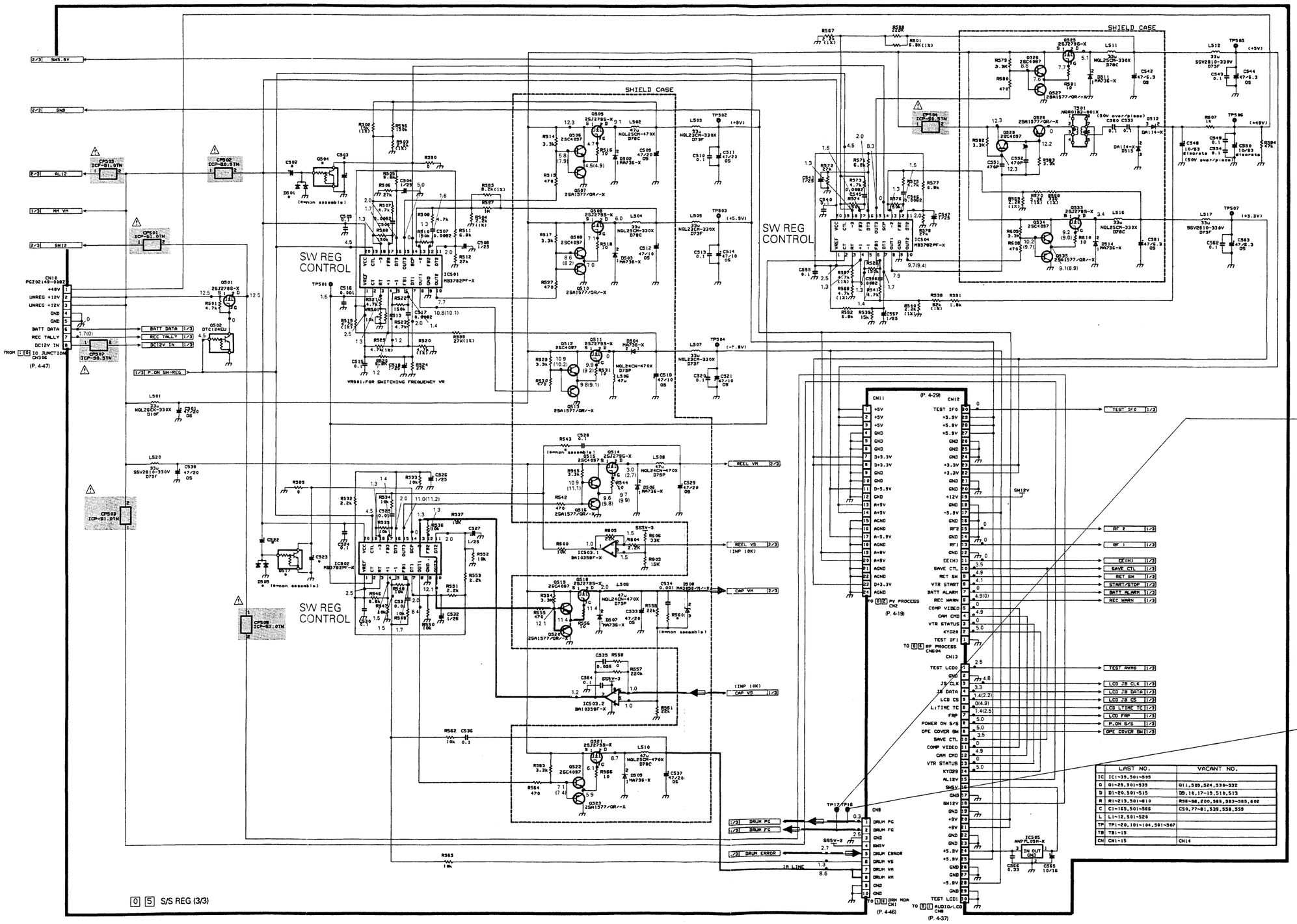
— DIAGRAM 1/3 —



4-42

— DIAGRAM 2/3 —


TP12
[PB]
NTSC : 230mVp-p/30Hz
PAL : 230mVp-p/25Hz
TP13
TP14
4.6 Vp-p/1.87 kHz
L:SERVO REC 1/3
PB CTL 1/3
CTL SW1 1/3
REC CTL- 1/3
REC CTL+ 1/3
CAP FG A 1/3
CAP X2FG 1/3
CAP FG B 1/3
CAP FWD DET 1/3
1/3 FG A PWM
CAP VM 3/3
CAP FWD CTL 1/3
1/3 FG B PWM
1/3 REEL CURRENT
3/3 REEL VM
3/3 REEL V
1/3 REEL ERROR
1/3 REEL M BRK
1/3 REEL FWD
FROM CAP MOTOR CN7
MGND
GND
CAP VM
12V
MR 5V
CAP FWD CTL
MR CFG B
MR CFG A
CN6
CTL HEAD+
CTL HEAD-
GND
FROM 1 2 A/C HEAD CN501
TO REEL MOTOR CN8
W
V
U
HG U+
HG U-
HG BIAS-
HG W+
HG W-
HG BIAS+
HG V-
HG V+
1A LINE
SW12V
SS5V-1
SS5V-2
SS5V-3
AL5V
BRK5V
SW9V
SW12V
AL12V
SW5.9V
SW9
SW12
AL12
PGZ00627Z
NQL114K-100X
AN77L05M-X
IC31 BA6862FS-X
IC35.1 BA10358F-X
IC35.2 BA10358F-X
IC24.1 NJM2068M-D-X
IC24.2 NJM2068M-D-X
IC26.1 NJM2068M-D-X
IC26.2 NJM2068M-D-X
IC25.1 BA10393F
IC25.2 BA10393F
IC27.1 BA10393F
IC27.2 BA10393F
IC28 TC4S30F-X
IC29 TC4S30F-X
IC30 TC7W74F-X
Q16 DTA114EU
Q17 2SC4081
Q18 2SC4081
Q19 DTC114EU
Q20 2SC4081
Q21 DTA124EU
Q25 2SC4081
Q26 2SB1073
Q27 2SB1073
Q28 2SB1073
Q29 2SC4081
D3 MA3130/M/-X
D11 DAP202U-X
D12 DAN202U-X
D13 MA3020-X
D19 MA3091/M/-X
S/S REG(2/3)

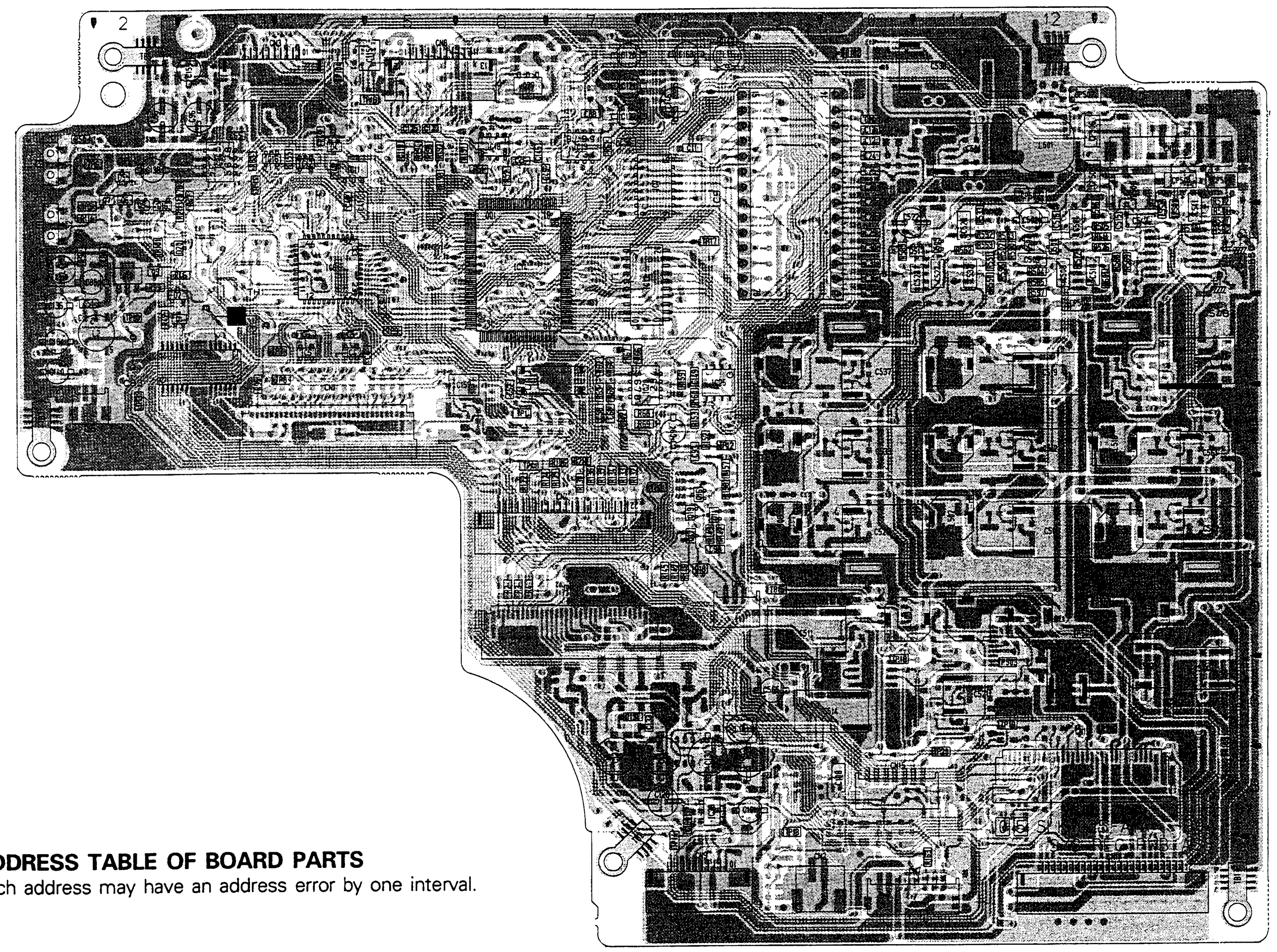


	LAST NO.	VACANT NO.
IC	IC1~39,501~505	
Q	Q1~28,501~539	Q11,503,524,530~532
D	D1~20,501~515	D5,10,17~19,510,513
R	R1~213,501~610	R98~88,200,586,583~585,602
C	C1~165,501~586	C50,77~81,528,558,559
L	L1~12,501~520	
TP	TP1~20,101~104,501~507	
TB	TB1~15	
CN	CN1~15	CN14

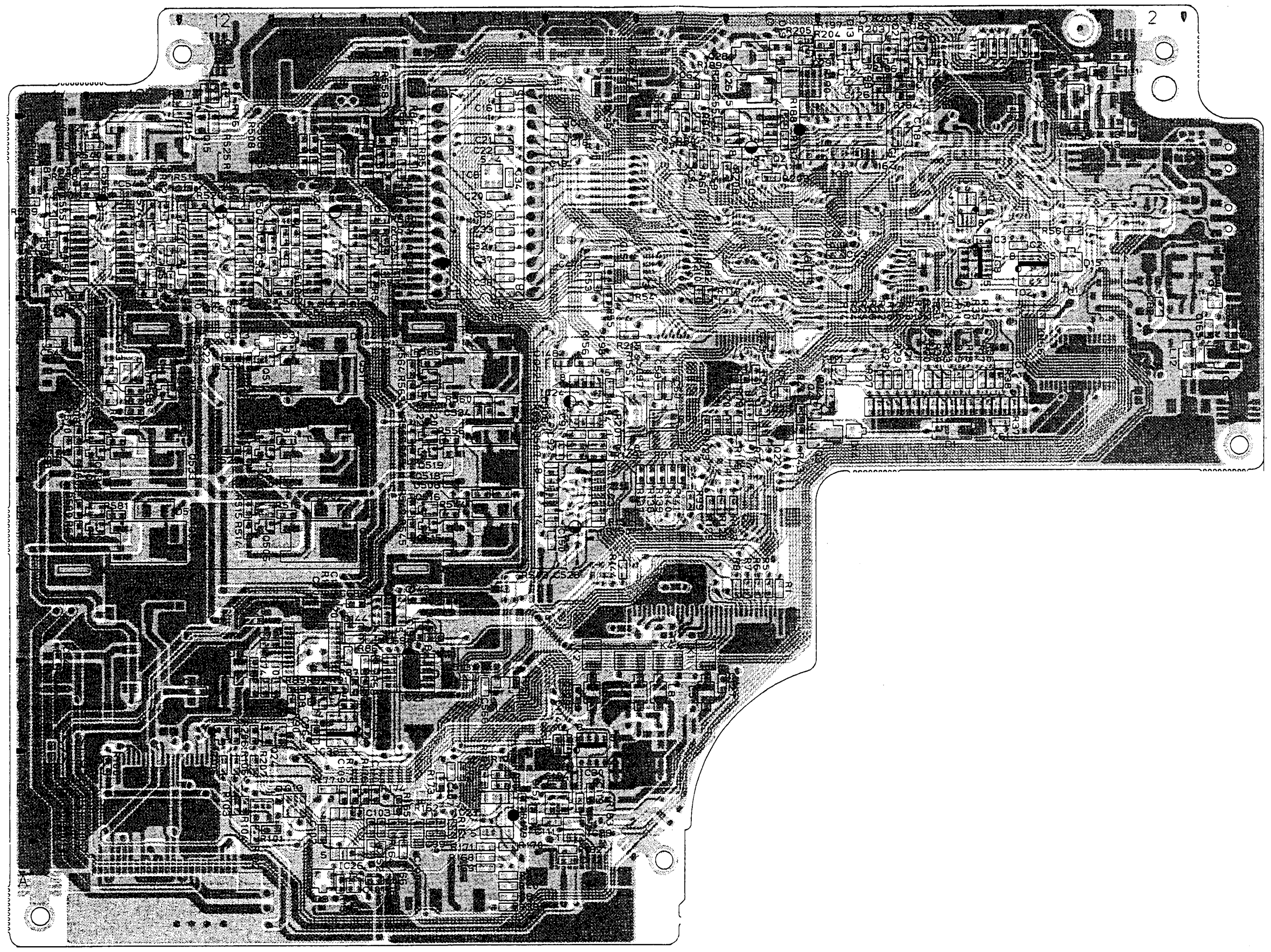
VIDE-V19087/ DRUCK: 36

4.24 S/S REG CIRCUIT BOARD

— SIDE A —



— SIDE B —



●ADDRESS TABLE OF BOARD PARTS

Each address may have an address error by one interval.

A-1C
Side — A; X axis — 1; Y axis — C

IC1	B-4H
IC2	B-3H
IC3	B-4H
IC4	A-4G
IC5	A-4G
IC6	A-4H
IC7	A-8I
IC8	B-9I
IC9	A-10G
IC10	B-10D
IC11	A-4I
IC12	A-4I
IC13	B-2I
IC14	A-6H
IC15	B-8H
IC16	A-3I
IC17	A-8H
IC18	A-6I
IC19	A-7I
IC20	A-8F
IC21	A-2G
IC22	B-10D
IC23	B-8E
IC24	B-8F
IC25	A-8G
IC26	B-11B
IC27	B-9B
IC28	B-8B
IC29	B-8B
IC30	B-8C
IC31	B-6I
IC32	B-11D
IC33	B-11C
IC34	A-3I
IC35	B-6I
IC36	B-1G
IC37	B-3I
IC38	A-8B
IC39	B-8J
IC501	B-12H
IC502	B-11H
IC503	B-11I
IC504	B-13H
IC505	B-9C
Q1	A-2G
Q2	B-6I
Q3	B-5F
Q4	B-5F
Q5	A-2H
Q6	A-2H
Q7	A-2H
Q8	B-1G
Q9	A-2H
Q10	A-2H
Q12	B-12B
Q13	B-11B
Q14	B-12C
Q15	B-12I
Q16	A-8E
Q17	A-8E
Q18	A-8E
Q19	A-8E
Q20	B-4J
Q21	B-5J
Q22	B-6F
Q23	B-6F
Q24	B-12C
Q25	B-11A
Q26	B-6J
Q27	A-6J
Q28	B-6J
Q29	B-6J
Q501	B-13I
Q502	B-14I
Q504	A-12H
Q505	B-11E
Q506	B-12E
Q507	B-12E
Q508	B-11F
Q509	B-12F
Q510	B-12F
Q511	B-11G
Q512	B-12G
Q513	B-12G
Q514	B-9E
Q515	B-10E
Q516	B-10E
Q517	A-11H
Q518	B-9F
Q519	B-10F
Q520	B-10F
Q521	B-9G
Q522	B-10F
Q523	B-10G
Q525	B-13E
Q526	B-14E
Q527	B-14E
Q528	B-13F
Q529	B-13G
Q533	B-13F
Q534	B-14F
Q535	B-14F
D1	B-4F
D2	A-2G
D3	B-11A
D4	A-4I
D5	A-2I
D6	B-6F
D7	B-5G
D8	B-11C
D11	A-8E
D12	B-4J
D13	B-5J
D14	B-5F
D15	B-3H
D16	A-2H
D19	B-6J
D20	A-2H
D501	A-12H
D502	B-11E
D503	B-11F
D504	B-11G
D505	A-11H
D506	B-9E
D507	B-9F
D508	B-9F
D509	B-9G
D511	B-13E
D512	B-13G
D514	B-13F
D515	B-13F
R1	B-6D
R2	A-6D
R3	A-6D
R4	A-6D
R5	B-6D
R6	B-6D
R7	B-6D
R8	B-6D
R9	B-3F
R10	B-4F
R11	B-4F
R12	B-4F
R13	B-4F
R14	B-5F
R15	B-4F
R16	B-4F
R17	B-4G
R18	B-4G
R19	B-4G
R20	B-4G
R21	B-4G
R22	B-5F
R23	B-4F
R24	B-5F
R25	B-5F
R26	B-5F
R27	B-5G
R28	B-5G
R29	B-5G
R30	B-4G
R31	B-4F
R32	B-4F
R33	B-4G
R34	B-3F
R35	B-4F
R36	B-4G
R37	B-3F
R38	B-3G
R39	B-9A
R40	B-9A
R41	B-9A
R42	A-2G
R43	B-6F
R44	B-6F
R45	B-10D
R46	A-2H
R47	A-2H
R48	A-4I
R49	A-4I
R50	A-1I
R51	A-6I
R52	A-6I
R53	B-8H
R54	B-8G
R55	B-8G
R56	B-3H
R57	B-6G
R58	B-11C
R59	B-7I
R60	B-7I
R61	A-7I
R62	A-7G
R63	A-7F
R64	A-7G
R65	A-7F
R66	A-7G
R67	A-7G
R68	A-8F
R69	A-8F
R70	B-7F
R71	B-7F
R72	B-5F
R73	B-6F
R74	B-6F
R75	B-7J
R76	B-7J
R77	B-7I
R78	A-2I
R79	B-7I
R80	B-7I
R81	B-7I
R82	B-7G
R83	A-3I
R84	B-10I
R85	B-10I
R86	B-11D
R87	B-11C
R88	B-12C
R89	B-11C
R90	B-11C
R91	B-11C
R92	B-11C
R93	A-2H
R94	A-1H
R95	A-3G
R99	B-7E
R100	B-13B
R101	B-12B
R102	B-12B
R103	B-12B
R104	B-12B
R105	B-12B
R106	B-12B
R107	B-12C
R108	B-3J
R109	B-3J
R110	B-6G
R111	A-1H
R112	B-3J
R113	B-4J
R114	B-4J
R115	B-13I
R116	B-12J
R117	B-13I
R118	B-12J
R119	B-6F
R120	B-7F
R121	B-7F
R122	A-6E
R123	B-7F
R124	A-6E
R125	A-7E
R126	A-7F
R127	B-6E
R128	B-7E
R129	B-7E
R130	A-7E
R131	B-11A
R132	A-7F
R133	A-7F
R134	A-7F
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R139	B-7E
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R141	B-7E
R142	A-8E
R143	A-8E
R144	B-8E
R145	A-8E
R146	A-8E
R147	A-8E
R148	B-8F
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R150	B-8F
R151	B-8F
R152	A-8F
R153	A-8F
R154	B-8F
R155	B-8G
R156	B-8G
R157	A-8F
R158	A-8E
R159	A-8G
R160	A-8F
R161	B-10B
R162	B-10B
R163	A-11A
R164	B-10B
R165	B-10B
R166	B-10A
R167	B-11B
R168	B-9A
R169	B-9A
R170	B-9B
R171	B-9B
R172	B-10B
R173	B-10B
R174	B-10B
R175	B-11B
R176	B-11B
R177	B-11B
R178	B-9B
R179	B-9B
R180	B-9B
R181	B-9B
R182	B-8A
R183	B-8B
R184	B-5J
R185	B-5J
R186	B-5J
R187	B-6I
R188	B-6I
R189	B-6J
R190	B-6J
R191	A-6I
R192	A-5I
R193	A-5I
R194	A-5I
R195	A-5I
R196	B-5J
R197	B-5J
R198	B-5J
R199	B-11C
R201	B-8F
R202	B-5J
R203	B-5J
R204	B-5J
R205	B-6J
R206	B-12C
R207	B-12B
R208	B-6I
R209	B-6I
R210	B-7G
R211	A-2H
R212	A-7F
R213	B-8G
R501	B-14I
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R515	B-12E
R516	B-11E
R517	B-12F
R518	B-11F
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R526	A-13H
R527	B-12F
R528	B-14H
R529	B-12G
R530	B-12G
R531	B-11G
R532	A-11H
R533	A-11H
R534	B-10H
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R536	B-10H
R537	B-10H
R538	B-14I
R539	B-14H
R540	B-14I
R541	B-14I
R542	B-10E
R543	B-9E
R544	B-10E
R545	B-10E
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R555	B-10F
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R557	B-10I
R558	B-10I
R559	B-9F
R560	B-9F
R561	B-10I
R562	B-11G
R563	B-10F
R564	B-10G
R565	B-11G
R566	B-10G
R567	A-13H
R568	A-13H
R569	A-13H
R570	B-14F
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R577	A-14H
R578	A-14H
R579	B-14E
R580	B-14E
R581	B-13E
R582	B-13G
R583	B-13F
R584	B-14G
R585	A-12H
R587	B-14H
R588	B-14H
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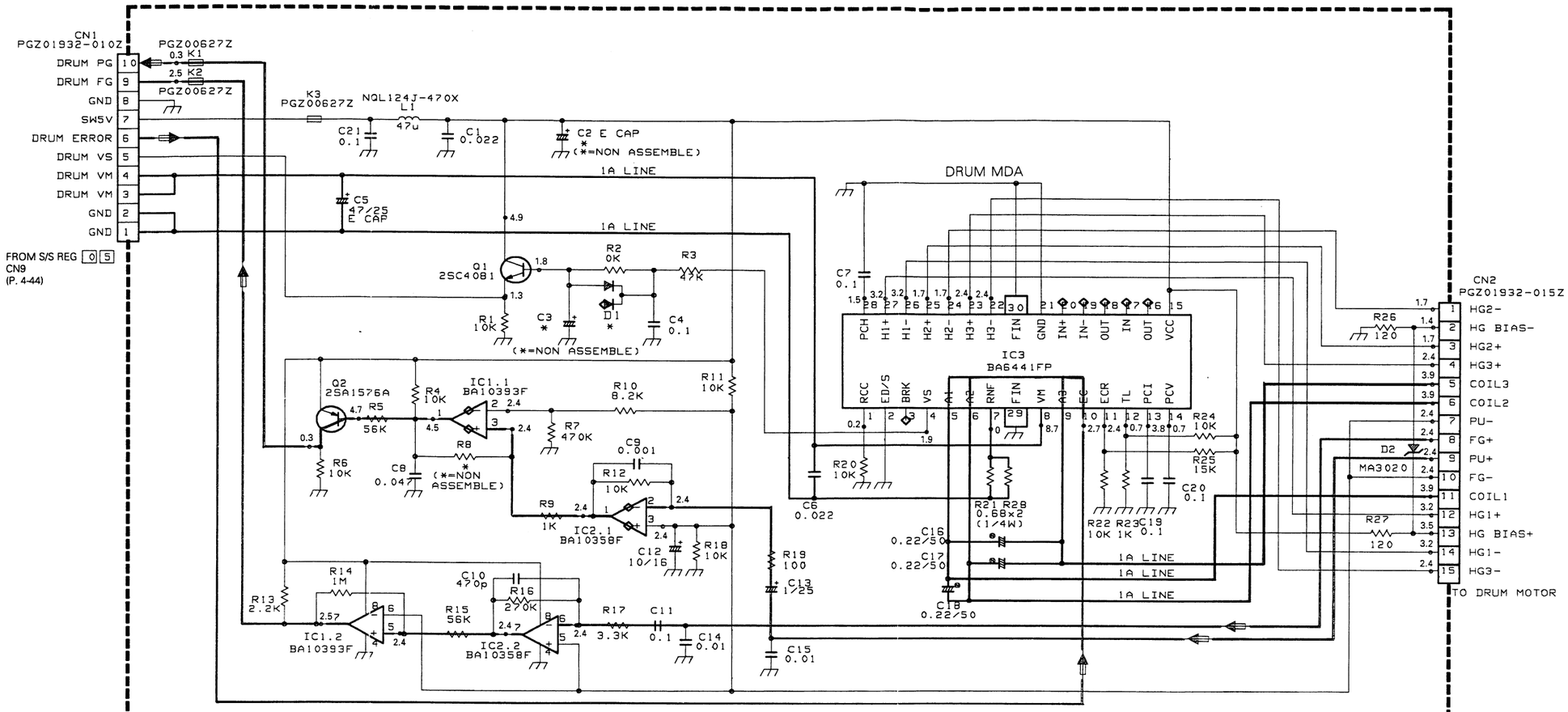
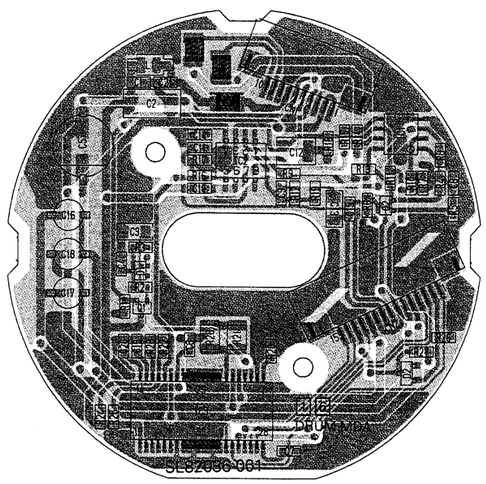
R590	A-12H
R591	B-14G
R592	A-14H
R596	A-12H
R597	A-12G
R598	B-14F
R599	B-13H
R600	B-10H
R601	A-13H
R603	B-11I
R604	B-11I
R605	B-11I
R606	B-11I
R607	B-14G
R608	B-14F
R609	B-14F
R610	B-13F
VR501	A-13I
C1	B-4H
C2	B-3H
C3	B-4H
C4	A-4G
C5	A-4G
C6	A-4G
C7	B-3G
C8	B-9A
C9	A-5G
C10	B-4H
C11	A-8I
C12	A-10I
C13	A-10I
C14	A-10I
C15	B-9J
C16	B-9I
C17	B-8I
C18	B-8I
C19	B-8I
C20	B-9I
C21	B-9I
C22	B-9I
C23	B-9G
C24	A-10I
C25	A-10I
C26	A-10I
C27	A-10H
C28	A-10H
C29	A-10H
C30	A-10H
C31	A-10H
C32	B-9H
C33	B-9H
C34	B-9I
C35	B-9H
C36	A-10H
C37	B-9H
C38	B-9H
C39	A-10G
C40	A-4H
C41	A-4H
C42	B-3I
C43	B-5H
C44	B-5H
C45	B-6G
C46	A-6I
C47	B-8H
C48	B-6H
C49	A-6I
C51	A-1G
C52	A-6F
C53	B-6G
C54	B-7I
C55	B-7I
C56	A-7I
C57	B-7F
C58	A-7F
C59	B-7F
C60	A-7F
C61	B-3F
C62	B-7J
C63	B-7I
C64	B-7I
C65	A-3I
C66	B-10I
C67	B-10I
C68	B-11D
C69	B-10D
C70	B-11D
C71	B-12C
C72	B-12D
C73	B-12C
C74	B-12C
C75	B-11C
C76	B-11C
C82	B-2G
C83	A-2G
C84	A-1H
C85	A-1H
C86	A-2I
C87	B-2J
C88	A-7I
C89	B-3J
C90	A-8E
C91	B-8F
C92	B-8F
C93	A-8F
C94	A-8F
C95	B-3J
C96	A-3I
C97	B-8F
C98	B-8G
C99	B-10B
C100	B-10B
C101	B-10A
C102	B-11B
C103	B-10B
C104	B-8B
C105	B-8C
C106	A-9B
C107	B-10B
C108	A-10B
C109	B-11B
C110	B-10B
C111	B-8B
C112	B-8A
C113	B-8B
C114	B-8C
C115	A-4J
C116	B-5J
C117	B-5I
C118	B-4I
C119	A-5I
C120	A-7J
C121	A-7J
C122	A-7I
C123	A-5I
C124	B-5J
C125	A-5I
C126	B-5J
C127	B-7C
C128	A-8B
C129	B-8C
C130	A-8C
C131	A-7C
C132	A-7C
C133	A-8C
C134	A-8C
C135	B-10C
C136	A-1G
C137	B-2I
C138	A-2I
C139	B-1G
C140	A-1G
C141	B-12J
C142	A-7F
C143	B-10D
C144	B-11D
C145	A-6I
C146	A-8I
C147	A-8J
C148	B-8G
C149	A-8G
C150	B-8E
C151	B-9B
C152	B-11B
C153	B-11C
C154	B-10D
C155	A-4I
C156	B-3G
C157	A-6G
C158	B-3I
C159	A-2J
C160	A-8B
C161	A-9B
C162	B-8J
C163	A-8J
C164	A-1G
C165	B-1G
C501	A-11I
C502	A-12H
C503	A-12H
C504	A-12H
C505	B-12H
C506	B-12H
C507	B-11G
C508	A-12H
C509	A-12E
C510	B-10D
C511	A-9D
C512	A-12F
C513	B-9C
C514	A-10C
C515	A-13H
C516	A-12H
C517	B-13H
C518	A-13H
C519	A-12G
C520	B-12D
C521	A-11C
C522	A-11H
C523	A-11H
C524	B-11H
C525	B-10H
C526	A-11H
C527	A-11H
C528	B-9E
C529	A-10E
C530	B-11H
C531	B-12H
C532	A-11H
C533	A-10F
C534	B-9F
C535	B-10I
C536	B-11G
C537	A-10G
C538	A-11J
C540	B-13I
C541	A-14H
C542	A-14E
C543	B-14D
C544	A-14C
C545	B-13H
C546	B-13G
C547	A-13H
C548	A-14H
C549	B-14G
C550	A-14H
C551	B-13F
C552	B-13F
C553	B-13G
C554	B-14G
C555	B-14H
C556	B-14I
C557	B-14I
C560	B-13G
C561	A-14F
C562	B-12C
C563	A-12C
C564	B-11I
C565	A-9C
C566	B-9C
L1	B-2J
L2	A-1G
L3	B-12C
L4	A-1H
L5	B-7C
L6	B-8C
L7	B-7C
L8	B-7C
L9	B-3J
L10	A-9C
L11	A-8J
L12	B-1G
L501	A-12I
L502	A-11E
L503	A-10D
L504	A-11F
L505	A-11D
L506	A-11G
L507	A-12D
L508	A-9E
L509	A-9F
L510	A-9G
L511	A-13E
L512	A-13C
L516	A-13F
L517	A-13D
L520	A-12J
TP1	A-6F
TP2	A-8E
TP3	A-2F
TP4	A-6F
TP5	A-1H
TP6	A-1I
TP7	A-3G
TP8	A-3G
TP9	A-5G
TP10	A-2G
TP11	A-3I
TP12	A-8F
TP13	A-9B
TP14	A-8B
TP15	A-9D
TP16	A-4J
TP17	A-8H
TP18	A-10D
TP19	A-12C
TP20	A-11C
TP101	A-2H
TP102	A-10J
TP103	A-14C
TP104	A-4J
TP501	A-13H
TP502	A-13C
TP503	A-12C
TP504	A-12D
TP505	A-13C
TP506	A-14I
TP507	A-13D
CP501	A-14I
CP502	A-12I
CP503	A-14I
CP504	A-12G
CP505	A-13I
CP506	A-13I
CP507	A-13J
S1	A-1I
S2	A-1H
T501	A-14G
TB1	A-14A
TB2	A-7A
TB3	A-1F
TB4	A-13J
TB5	A-2J
TH1	A-3G
CN1	A-4F
CN2	A-10A
CN3	A-3J
CN4	A-7E
CN5	A-1F
CN6	A-9D
CN7	A-11A
CN8	A-5J
CN9	A-8A
CN10	A-13I
CN11	A-13A
CN12	A-12B
CN13	A-7D
CN15	A-10B
K1	B-7D
K2	B-8D
K3	B-8D
K4	B-7D
X1	A-7G

4.25 DRUM MDA SCHEMATIC DIAGRAM & CIRCUIT BOARD [1][6]

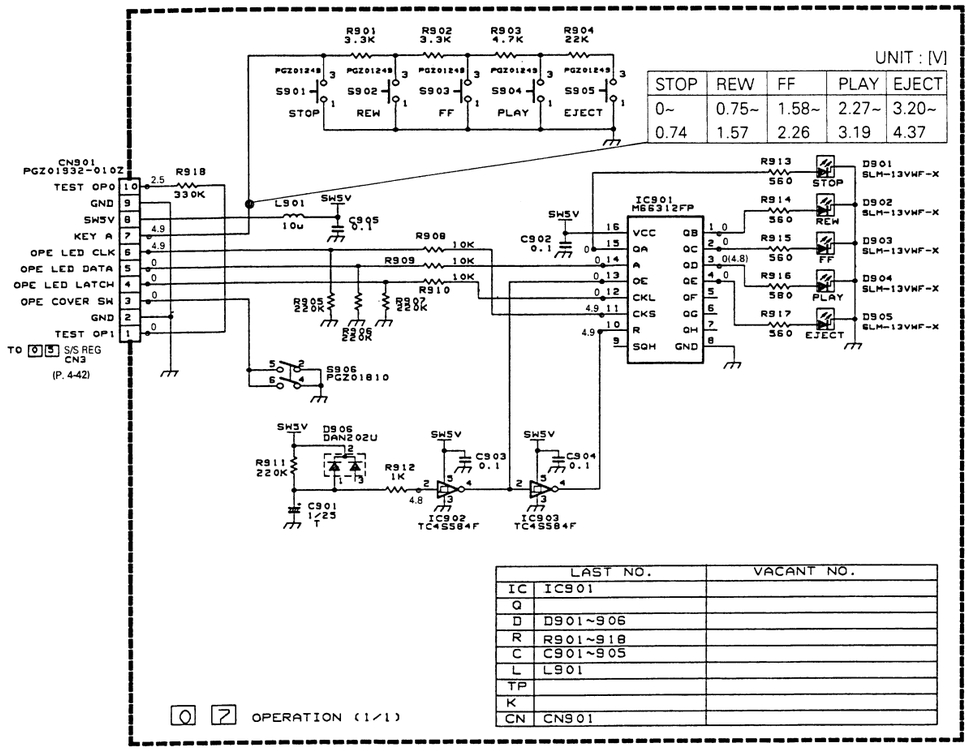


	LAST NO.	VACANT NO.
IC	IC1~3	
Q	Q1~2	
D	D1~2	
R	R1~28	
C	C1~21	
L	L1	
TP		
K	K1~3	
CN	CN1~2	

[1] [6] DRM/MDA (1/1)

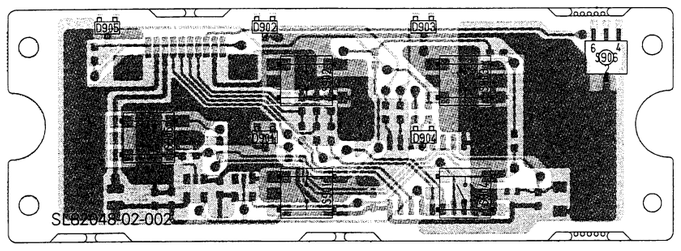


4.26 OPERATION SCHEMATIC DIAGRAM & CIRCUIT BOARD 07

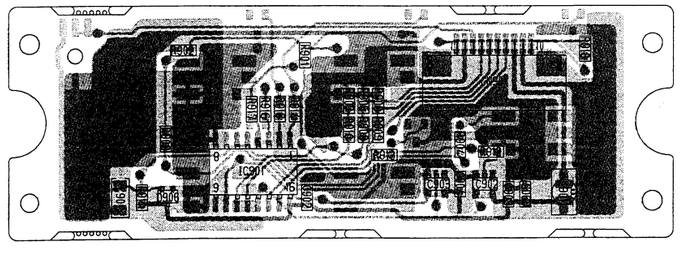


	LAST NO.	VACANT NO.
IC	IC901	
Q		
D	D901~906	
R	R901~918	
C	C901~905	
L	L901	
TP		
K		
CN	CN901	

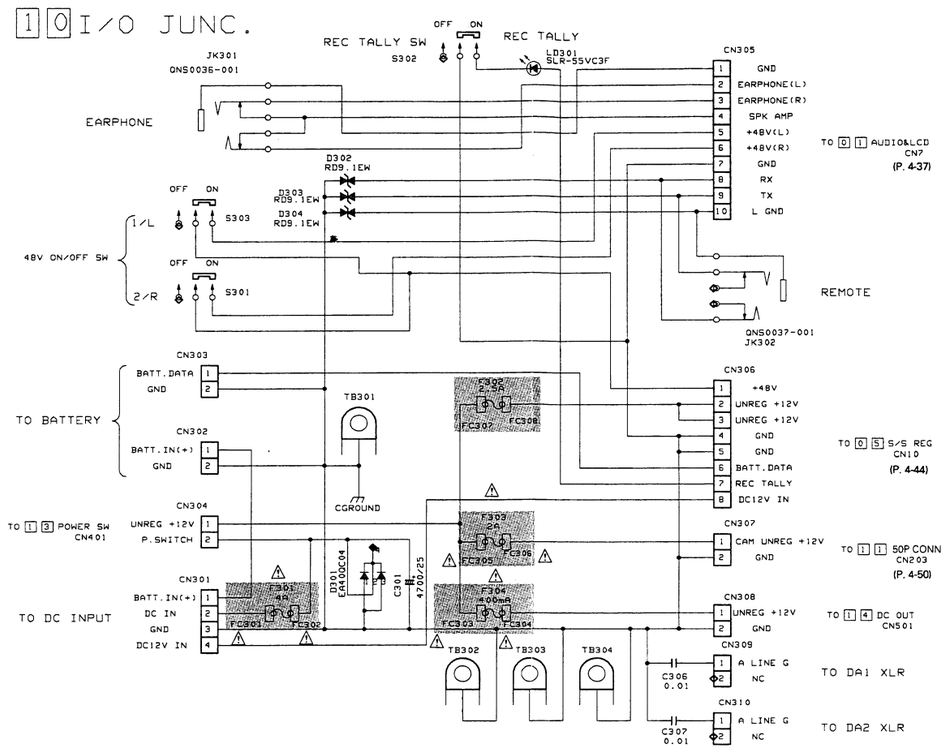
— SIDE A —

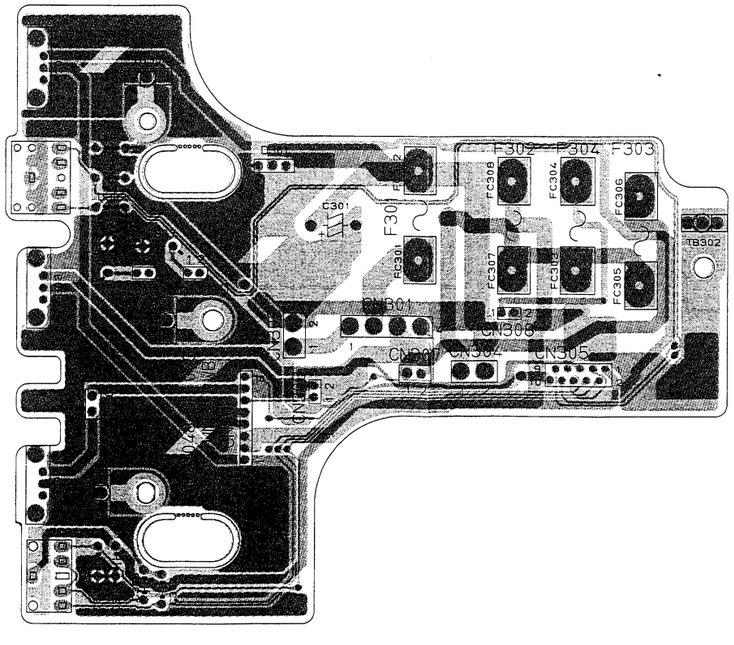


— SIDE B —



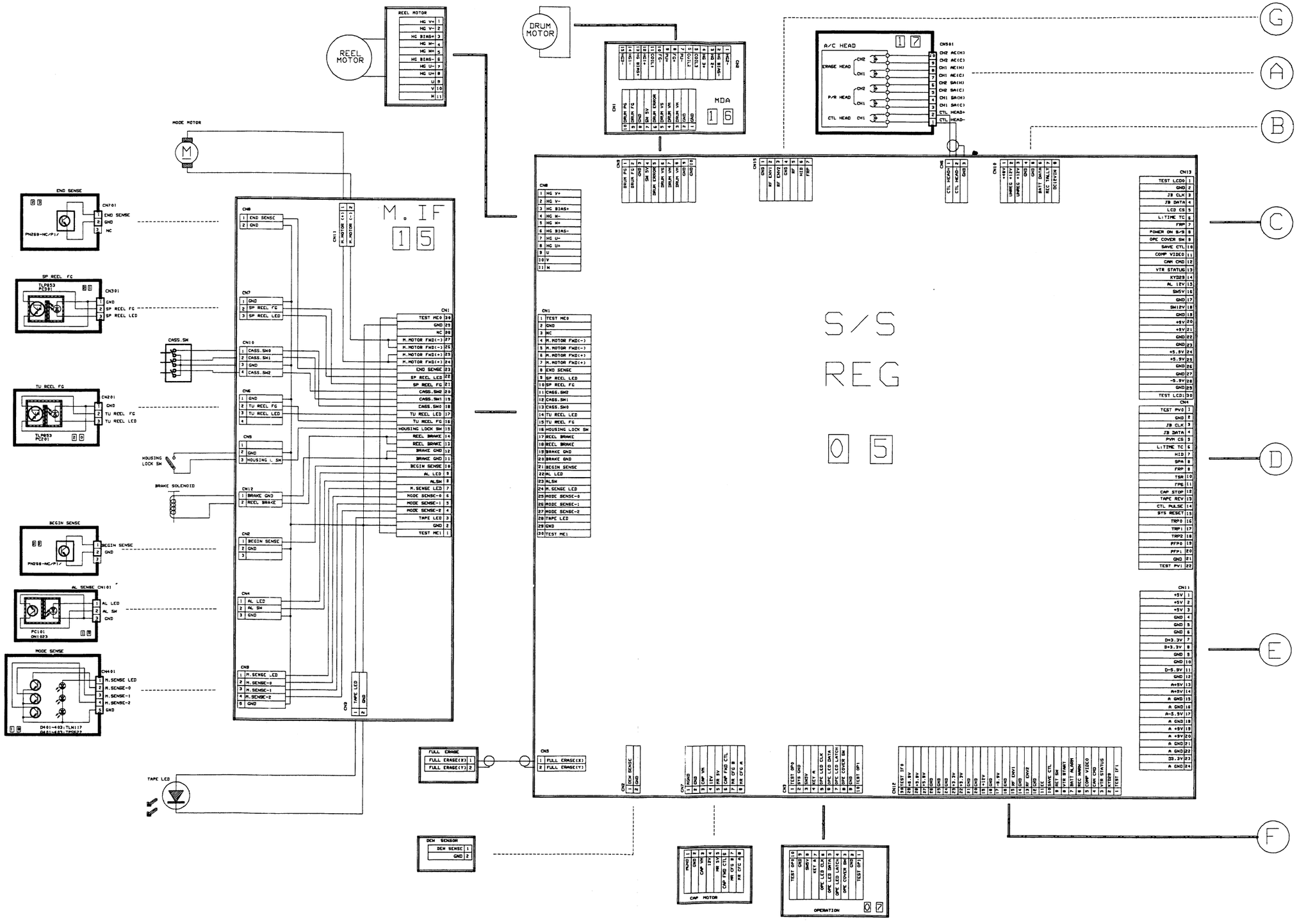
4.27 I/O JUNC SCHEMATIC DIAGRAM & CIRCUIT BOARD 10



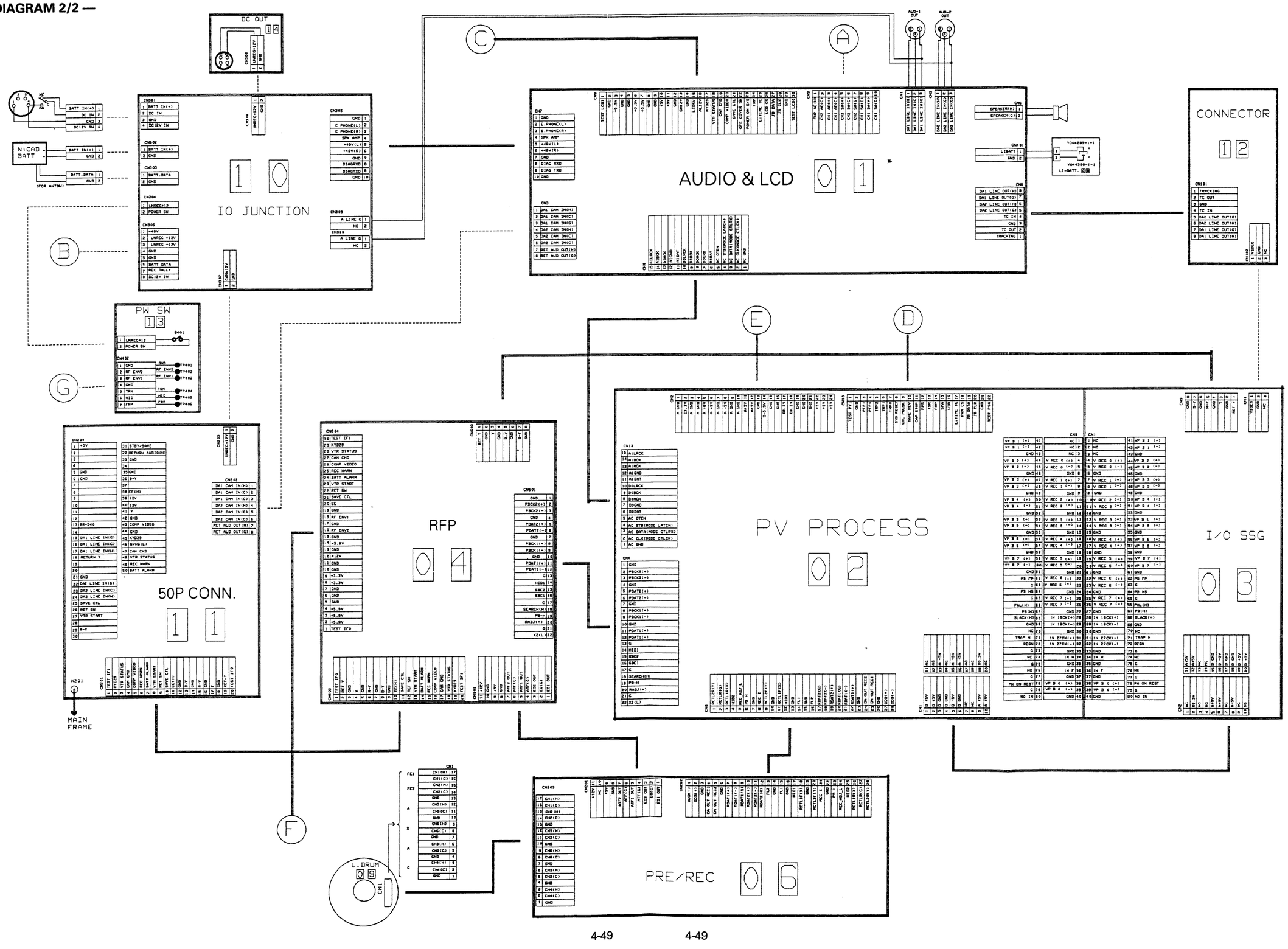


4.28 OVERALL WIRING DIAGRAMS

— DIAGRAM 1/2 —

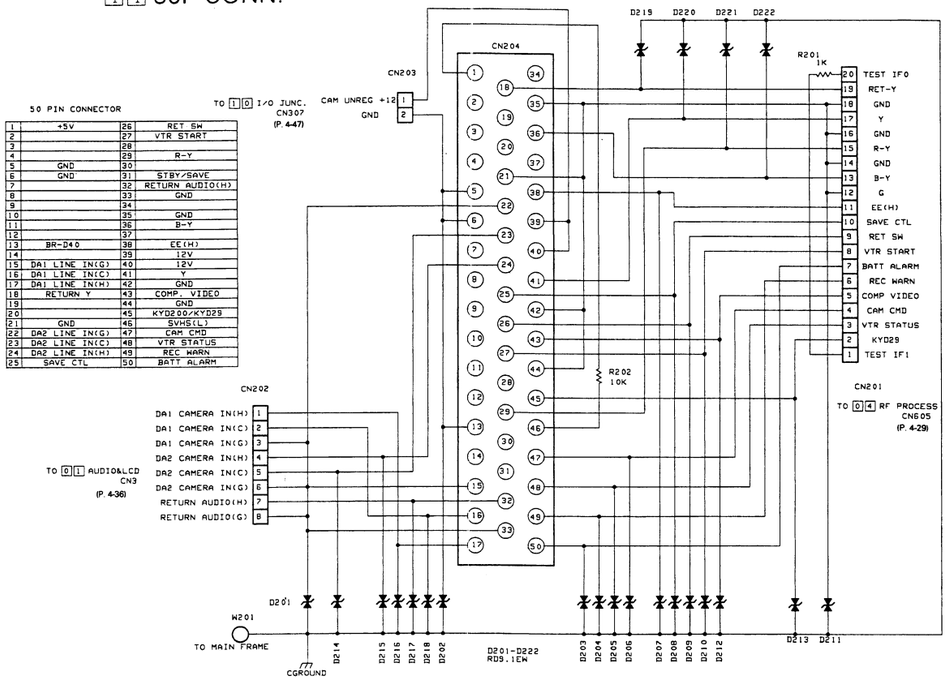


— DIAGRAM 2/2 —

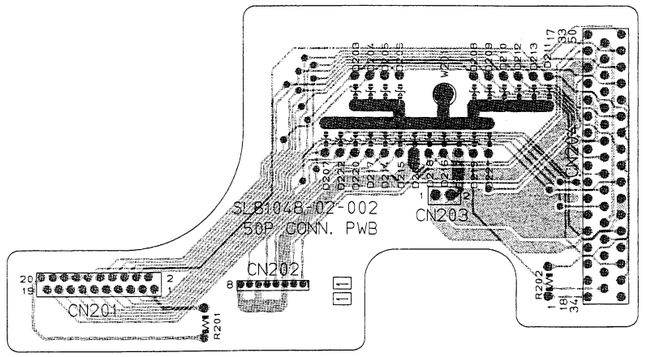

DC OUT
14
CN308
UNREG+12V
GND
BATT IN(+)
DC IN
GND
DC12V IN
N:CAD BATT
BATT.DATA
(FOR ANTON)
CN301
CN302
CN303
CN304
CN306
CN307
IO JUNCTION
10
CN305
GND
E.PHONE(L)
E.PHONE(R)
SPK AMP
+8V(L)
+8V(R)
DIAGRXD
DIAGTXD
A LINE G
NC
CN310
UNREG +12V
POWER SW
+8V
VREC +12V
SBATT DATA
REC TALLY
AUDIO & LCD
01
CN7
CN3
CN4
CN8
CN9
CN1
CN2
CN6
CN10
AUD-1 OUT
AUD-2 OUT
SPEAKER(H)
SPEAKER(G)
LI-BATT.
CONNECTOR
12
CN101
CN102
TRACKING
TC OUT
TC IN
VIDEO
PW SW
13
SW401
CN402
GND
RF ENV2
RF ENV1
TRM
MIC
FRP
TP401
TP402
TP403
TP404
TP405
TP406
G
50P CONN.
11
CN204
CN205
CN206
STBY-SAVE
RETURN AUDIO(H)
B-Y
R-Y
EE(H)
12V
-12V
COMP VIDEO
KYDI29
SYNC(L)
CAM CNS
VTR STATUS
REC WARN
BATT ALARM
DA1 CAM IN(H)
DA1 CAM IN(C)
DA1 CAM IN(G)
DA2 CAM IN(H)
DA2 CAM IN(C)
DA2 CAM IN(G)
RET AUD OUT(H)
RET AUD OUT(C)
MAIN FRAME
RFP
04
CN804
CN803
CN805
CN801
TEST IF1
KYDI29
VTR STATUS
CAM CNS
COMP VIDEO
REC WARN
BATT ALARM
VTR START
RET SW
SAVE CTL
EE(H)
RET Y
RET B-Y
RET R-Y
TEST IF0
PBCK2(+)
PBCK2(-)
PDAT2(+)
PDAT2(-)
PBCK1(+)
PBCK1(-)
PDAT1(+)
PDAT1(-)
HID1
SBK2
SBK1
SEARCH(H)
PB-H
RADJ(H)
X2(L)
PV PROCESS
02
CN12
CN4
CN19
CN9
CN1
CN8
CN6
CN5
CN2
I/O SSG
03
L.DRUM
CN1
PRE/REC
06
CN202
CN203
CN201
CN209
CN204
CN205
F
4-49
4-49

4.29 50P CONN. SCHEMATIC DIAGRAM & CIRCUIT BOARD [1][1]

[1][1] 50P CONN.

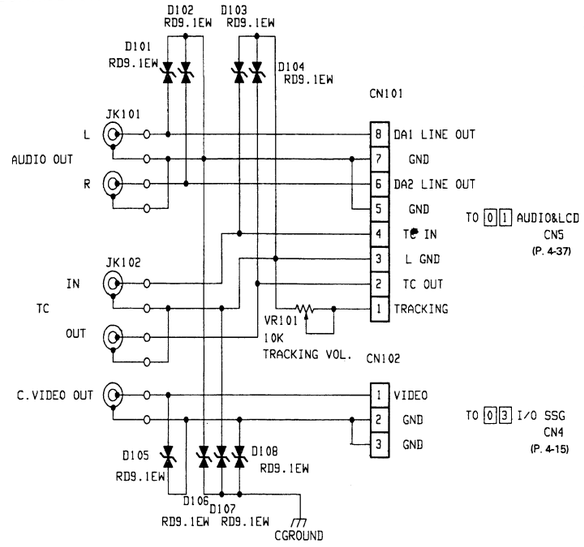


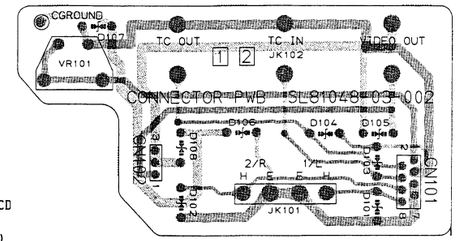
1	+5V	26	RET SW
2		27	VTR START
3		28	
4		29	R-Y
5	GND	30	
6	GND	31	STBY/SAVE
7		32	RETURN AUDIO(H)
8		33	GND
9		34	
10		35	GND
11		36	B-Y
12		37	
13	BR-D40	38	EE(H)
14		39	12V
15	DA1 LINE IN(G)	40	12V
16	DA1 LINE IN(C)	41	Y
17	DA1 LINE IN(H)	42	GND
18	RETURN Y	43	COMP. VIDEO
19		44	GND
20		45	KYD200/KYD29
21	GND	46	SVHS(L)
22	DA2 LINE IN(G)	47	CAM CMD
23	DA2 LINE IN(C)	48	VTR STATUS
24	DA2 LINE IN(H)	49	REC WARN
25	SAVE CTL	50	BATT ALARM



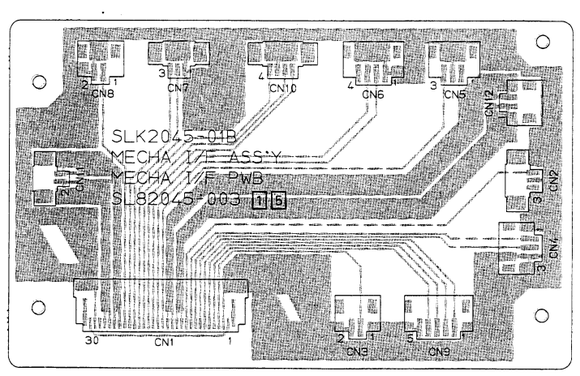
4.31 CONNECTOR SCHEMATIC DIAGRAM & CIRCUIT BOARD [1][2]

[1][2] CONNECTOR



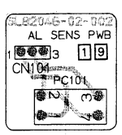


4.32 MECHA. I/F CIRCUIT BOARD



4.30 AL SENSE/TU REEL FG/SP REEL FG/MODE SENSE/A/C HEAD/BEGIN SENSE/END SENSE/POWER SW CIRCUIT BOARD

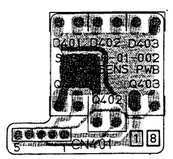
— AL SENSE —



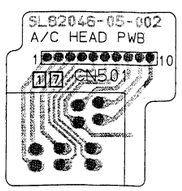
— TU REEL FG —

— SP REEL FG —

— MODE SENSE —

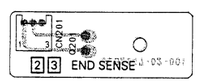


— A/C HEAD —

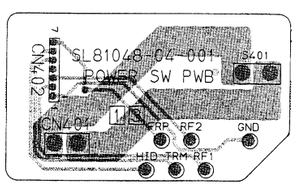


— BEGIN SENSE —

— END SENSE —



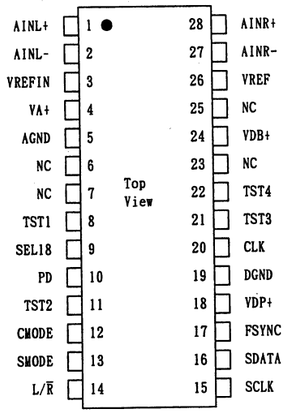
— POWER SW —

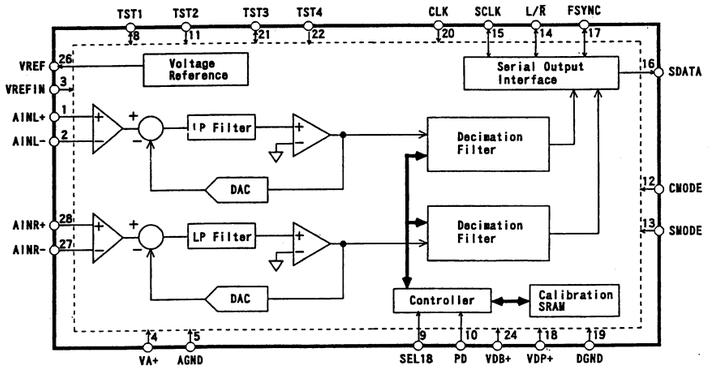


4-50

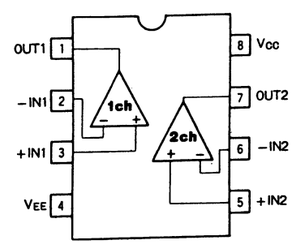
4.33 BLOCK DIAGRAMS of IC'S

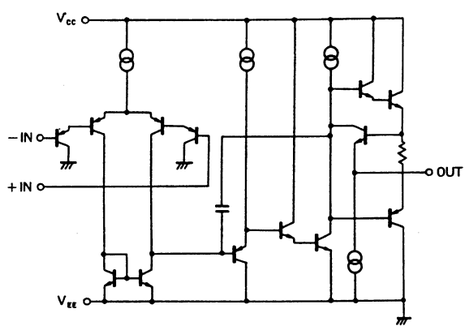
■ AK5340-VS 【ASAHIKASEI】
(18 bit 2 Channel A/D Converter)



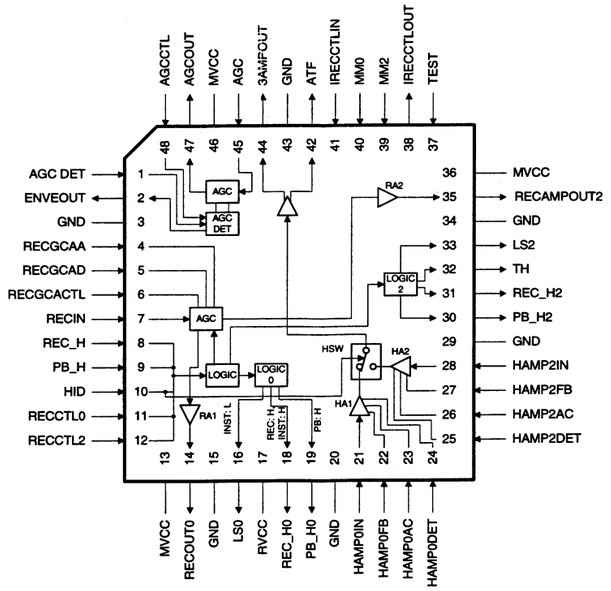


■ BA10358F-X 【ROHM】
(Dual Ground Sense Op.Amp.)

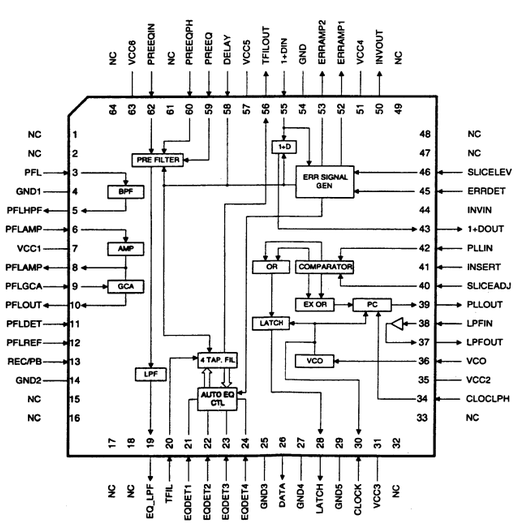




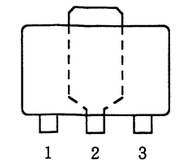
■ AN3730FA 【MATSUSHITA】
(Pre-Recoding Amplifire)



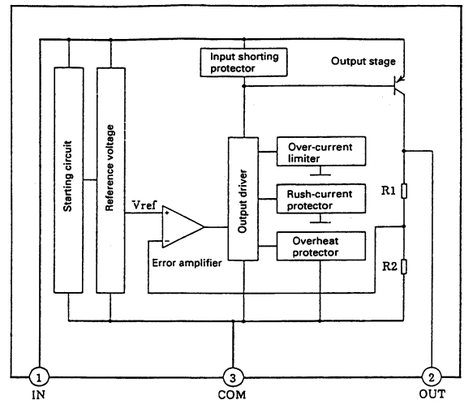
■ AN3740FAP 【MATSUSHITA】
(Playback Amplifire)



■ AN77L03M-X 【MATSUSHITA】
■ AN77L05M-X 【MATSUSHITA】
(Voltage Regulator)

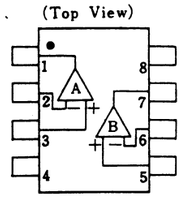


(Top View)



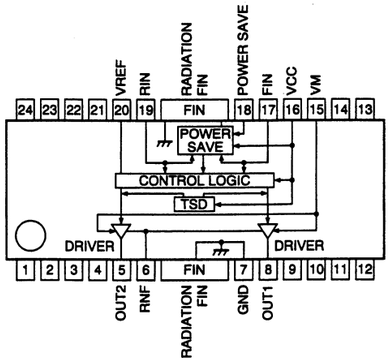
■ BA10393F-X 【ROHM】
(Dual Comparator)

(Top View)



Pin
1. A OUTPUT
2. A−INPUT
3. A+INPUT
4. V⁻
5. B+INPUT
6. B−INPUT
7. B OUTPUT
8. V⁺

■ BA6285FP-X 【ROHM】
(Reversible Motor Driver)

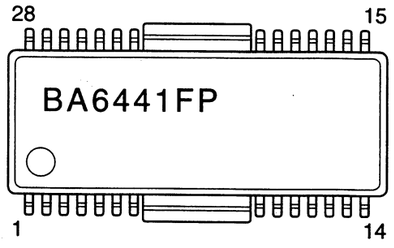


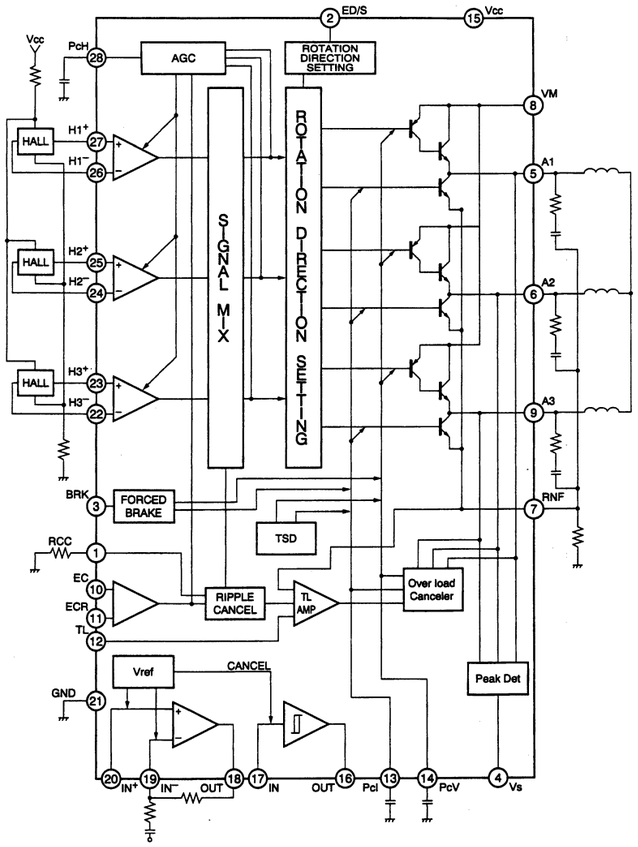
(Top View)

Pin No.	Symbol	Function
1	NC	
2	NC	
3	NC	
4	NC	
5	OUT 2	Motor drive output
6	RNF	GND for motor drive output
7	GND	GND
8	OUT 1	Motor drive output
9	NC	
10	NC	
11	NC	
12	NC	
13	NC	
14	NC	
15	V_M	Power source for motor drive
16	V_{CC}	
17	FIN	Logic input
18	POWER SAVE	Less than 0.8 V : Movement More than 2 V : Stand-by
19	R_{IN}	Logic input
20	V_{REF}	Motor drive output voltage (high level) setting
21	NC	
22	NC	
23	NC	
24	NC	
FIN	FIN	Connect the GND

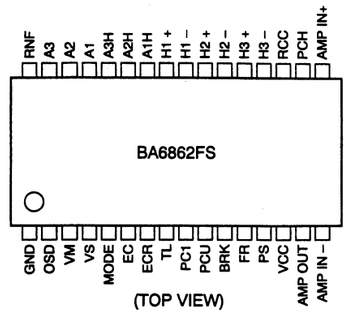
NC : Not connected

■ BA6441FP-X 【ROHM】
(Motor Driver)



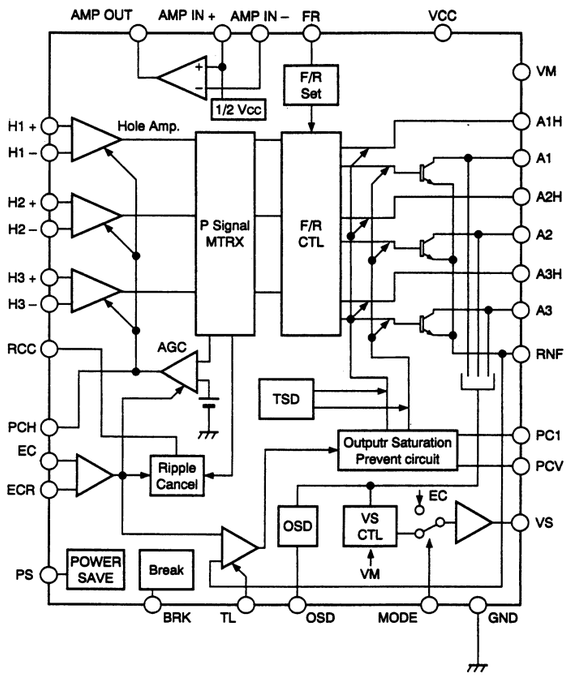


■ BA6862FS-X 【ROHM】
(Motor Driver)

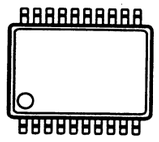


(TOP VIEW)

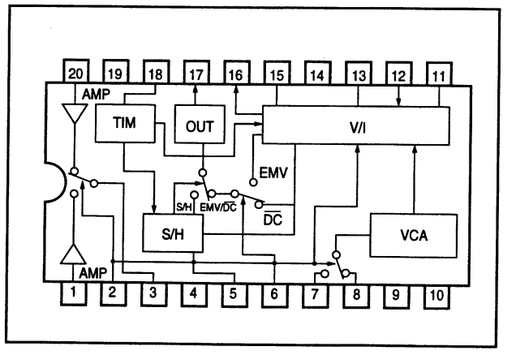
Pin No.	Symbol	Function
1	GND	GND
2	OSD	Output detect for short circuit
3	VM	Power source for motor drive
4	VS	Control for motor drive
5	MODE	Current/Voltage switching
6	EC	Torque control
7	ECR	Torque reference
8	TL	Torque limited
9	PCI	Output saturation prevent level (low level)
10	PCV	Output saturation prevent level (high level)
11	BRK	Break input H : Break L : Movement
12	FR	Foward/Reverse CTL input
13	PS	Power save H : Stand-by L : Movement
14	VCC	
15	AMP OUT	Amplifire output
16	AMP IN −	Amplifire input (−)
17	AMP IN +	Amplifire input (+)
18	PCH	Hole amp, AGC phase compareter
19	RCC	Ripple cancel
20	H3 −	Hole signal input
21	H3 +	Hole signal input
22	H2 −	Hole signal input
23	H2 +	Hole signal input
24	H1 −	Hole signal input
25	H1 +	Hole signal input
26	A1H	Pre motor drive output
27	A2H	Pre motor drive output
28	A3H	Pre motor drive output
29	A1	Motor drive output
30	A2	Motor drive output
31	A3	Motor drive output
32	RNF	GND for motor drive



■ BA7043FS-X 【ROHM】
(VTR Auto Tracking Interface)



Pin No.	Function	Pin No.	Function
1	AUDIO FM IN	11	V/I RESISTOR
2	VFM/$\overline{\text{AFM}}$ CTL	12	$\overline{\text{SP}}$/EP GAIN CTL
3	$\overline{\text{AMP}}$ OUT	13	CHARGED CAPACITOR
4	Not Connected	14	GND
5	HOLD CAPACITOR	15	EMV LEVEL ADJ.
6	$\overline{\text{DC}}$/EMV CTL	16	$\overline{\text{EMV}}$ LEVEL DOWN
7	AUDIO FILTER IN	17	$\overline{\text{DC}}$/EMV OUT
8	VIDEO FILTER IN	18	D F.F IN
9	VIDEO GAIN ADJ.	19	VCC
10	AUDIO GAIN ADJ.	20	VIDEO FM IN



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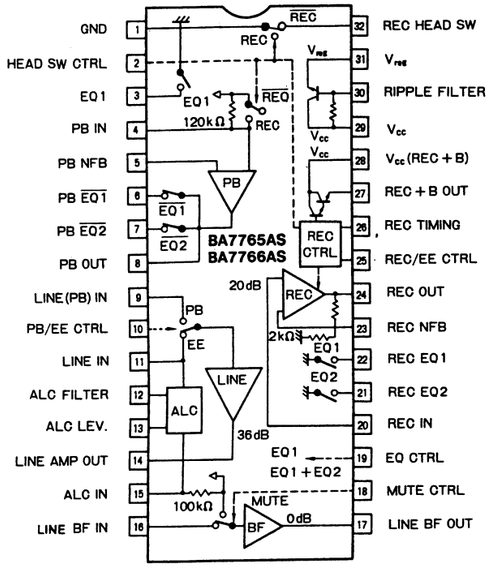
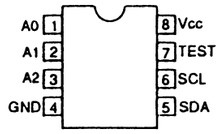
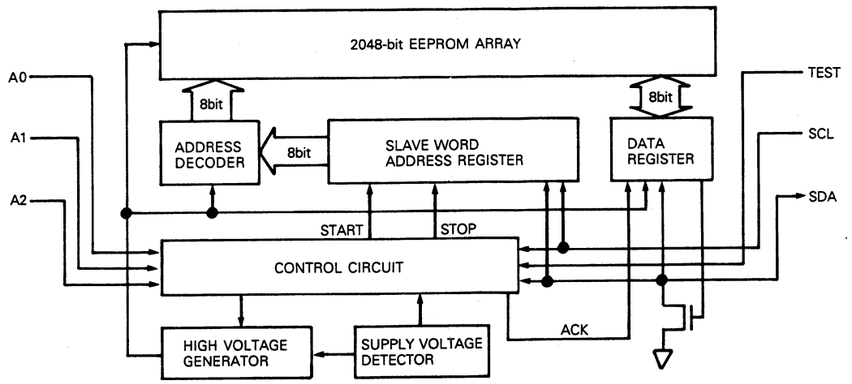
■ BA7765AS 【ROHM】
(Normal Audio Signal Processor)



(TOP VIEW)

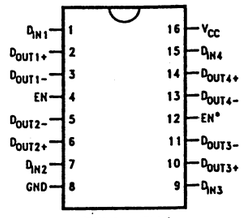
■ BR24C02F-X 【ROHM】
(IIC Bus 2k Serial EEPROM)



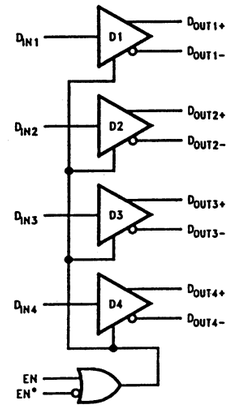


■ DS90C031TM-X 【NATIONAL SEMICONDUCTOR】
(Low Voltage Differential Signaling Quad CMOS Differential Line Driver)

Dual-In-Line



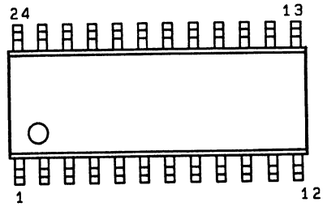
(TOP VIEW)

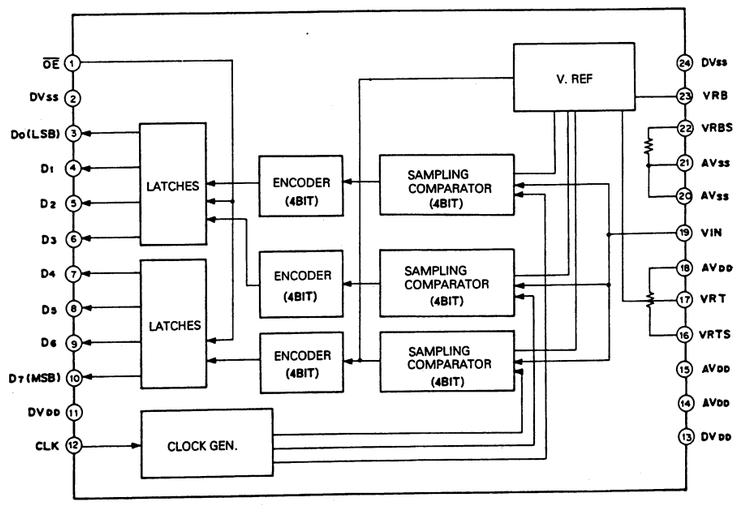


DRIVER

Enables		Input	Outputs	
EN	EN*	D_{IN}	D_{OUT+}	D_{OUT-}
L	H	X	Z	Z
All other combinations of ENABLE inputs		L	L	H
		H	H	L

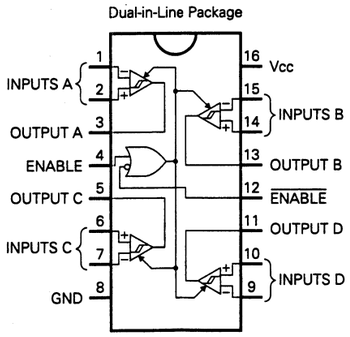
■ CXD1175AM-X 【SONY】
(8-Bit 20MSPS Video A/D Converter)





■ DS26C32ATM-X 【National Semi Conductor】
(Quad Differential Line Receiver)

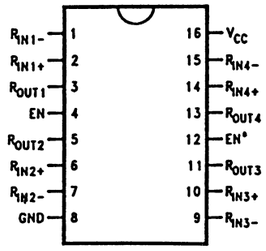
Dual-in-Line Package



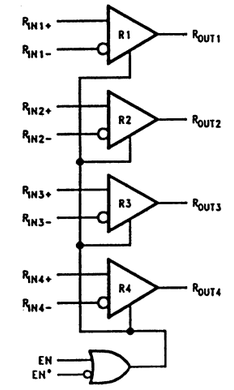
Top View

■ DS90C032TM-X 【NATIONAL SEMICONDUCTOR】
(Low Voltage Differential Signaling Quad CMOS Differential Line Receiver)

Dual-In-Line



(TOP VIEW)



RECEIVER

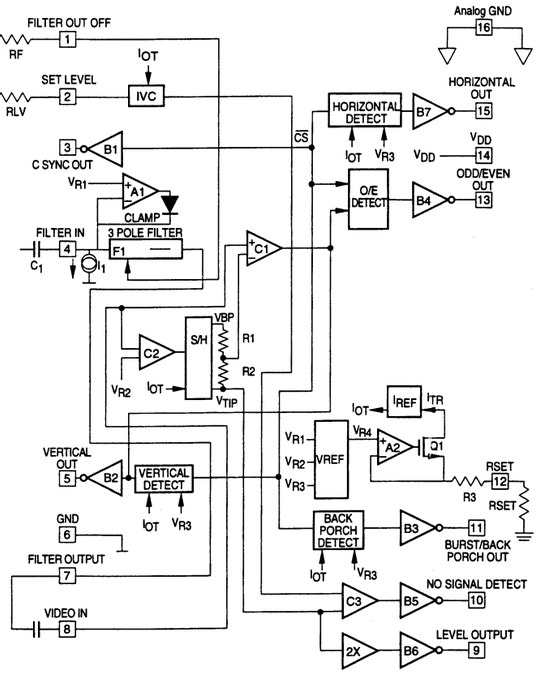
ENABLES		INPUTS	OUTPUT
EN	EN*	$R_{IN+} - R_{IN-}$	R_{OUT}
L	H	X	Z
All other combinations of ENABLE inputs		$V_{ID} \geq 0.1V$	H
		$V_{ID} \leq -0.1V$	L
		Full Failsafe OPEN/SHORT or Terminated	H

■ EL4583CS-X 【ELANTEC】
(Video Sync Separator)

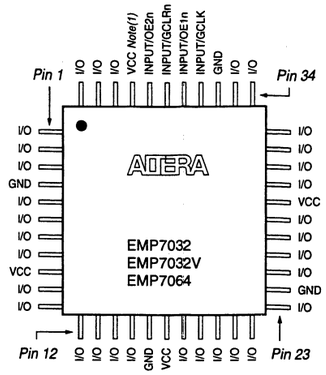
FILTER CUT OFF	1	16	ANALOG GND
SET DETECT LEVEL	2	15	HORIZONTAL SYNC. OUTPUT
COMPOSITE SYNC. OUTPUT	3	14	VDD
FILTER INPUT	4	13	ODD/EVEN OUTPUT
VERTICAL SYNC. OUTPUT	5	12	RSET
GND	6	11	BACK PORCH CLAMP
FILTER OUTPUT	7	10	NO. SIGNAL DETECT. OUTPUT
VIDEO INPUT	8	9	LEVEL OUTPUT

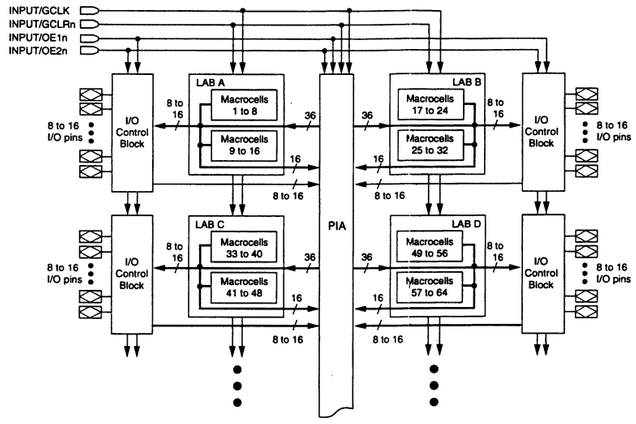
Note: R SET must be a 1% resistor.

Top View



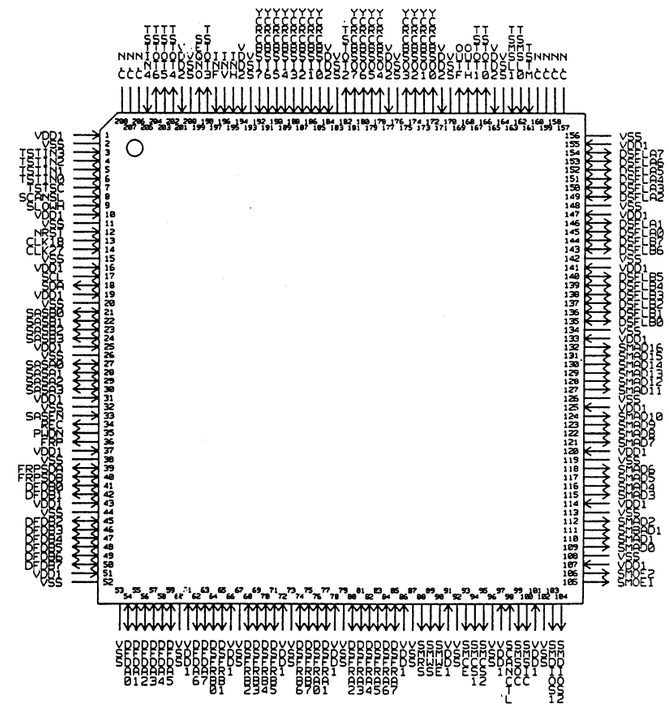
■ EPM032VT-20-001 【ALTERA】
(Erasable Programable Logic Devices)

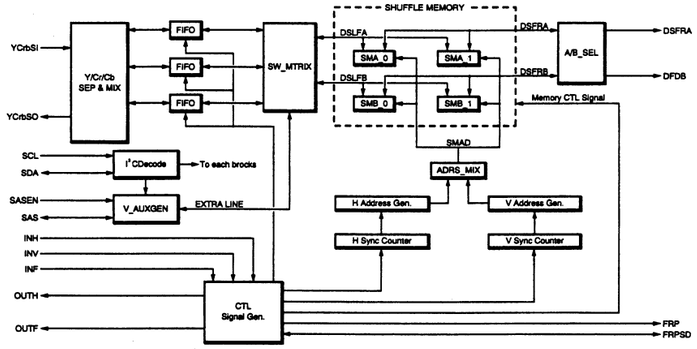




■ EPM064-15-003 【ALTERA】
(Refer to EPM032VT-20-001.)

■ JCL0028 【JVC】
(Shuffling Memory Control)





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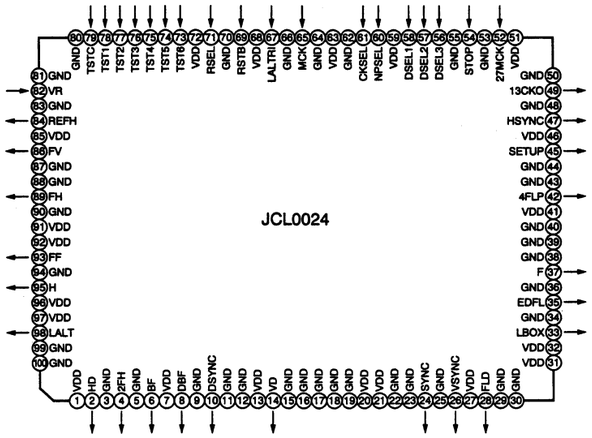
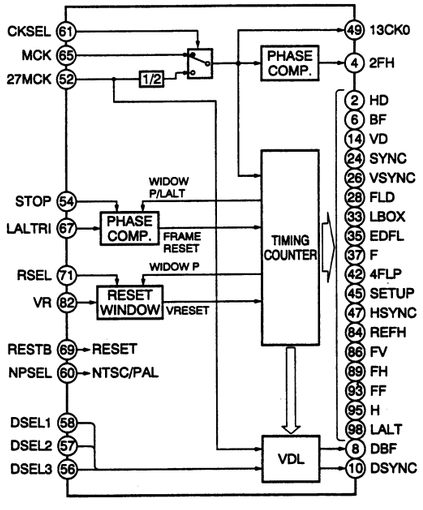
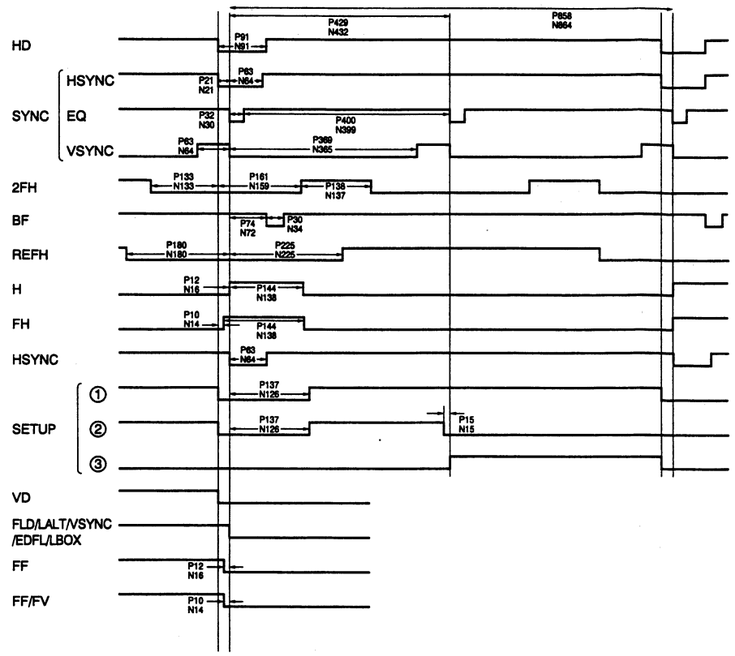
■ JCL0024 【JVC】
(Sync Signal Gennerator)



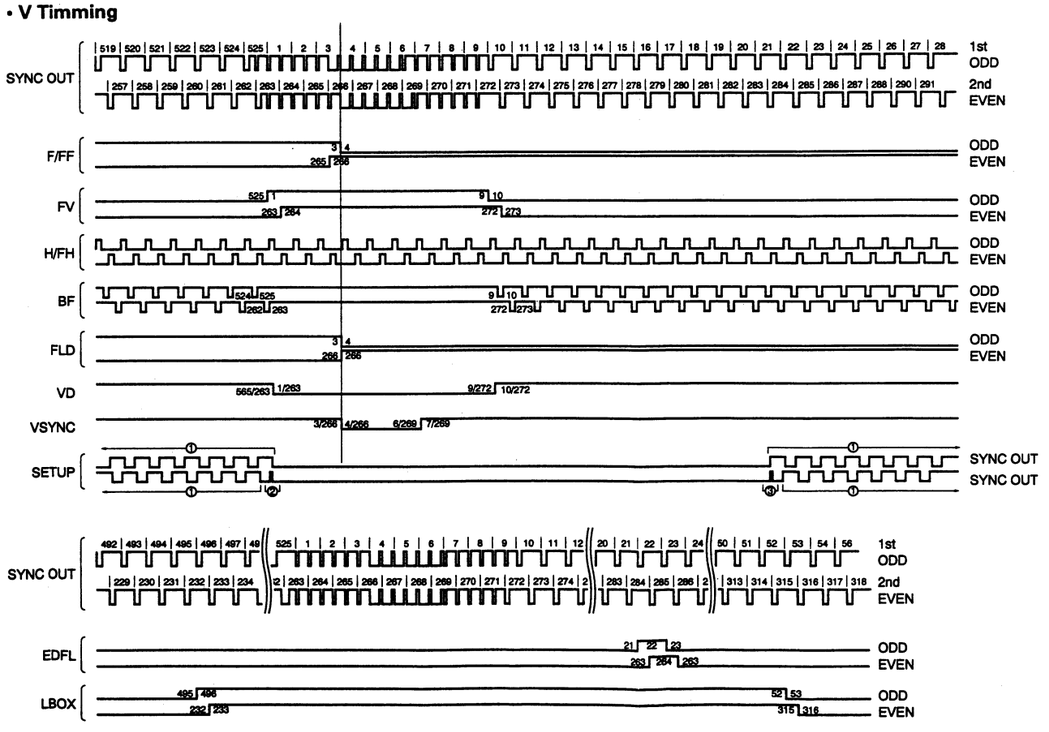


Pin No.	Name	I/O	Function
2	HD	O	Horizontal drive pulse output.
4	2FH	O	Double fH frequency pulse output.
6	BF	O	Burst flag pulse output.
8	DBF	O	Variable delayed burst flag pulse output.
10	DSYNC	O	Variable delayed sync signal output.
14	VD	O	Vertical drive pulse output.
24	SYNC	O	Composite sync output.
26	VSYNC	O	Vertical sync output.
28	FLD	O	Field index pulse output.
33	LBOX	O	Letter box output for EDTV2 and PAL plus.
35	EDFL	O	Flag window output for EDTV2 and PAL plus.
37	F	O	Field index pulse output.
42	4FLP	O	Four field sequence pulse output.
45	SETUP	O	Setup pulse output for video signal setup.
47	HSYNC	O	Horizontal sync signal output.
49	13CKO	O	1/2 count-down of 27 MHz (13.5 MHz) pulse output.
52	27MCK	I	27 MHz clock input.
54	STOP	I	Set the LALTRI input terminal. L : Not used, H : used
56	DSEL3	I	Set the delay timing of DSYNC and DBF signal.
57	DSEL2	I	
58	DSEL1	I	
60	NPSEL	I	NTSC/PAL select. L : NTSC, H : PAL
61	CKSEL	I	Set the input clock frequency. L : 13.5 MHz, H : 27 MHz
65	MCK	I	13.5 MHz clock input.
67	LALTRI	I	Line alternated reset input.
69	RSTB	I	Power on reset. L : reset
71	RSEL	I	Set the V-reset mode, L : MODE 1, H : MODE 2
73	TEST6	I	Test signal input.
74	TEST5	I	Connect the GND.
75	TEST4	I	
76	TEST3	I	
77	TEST2	I	
78	TEST1	I	
79	TESTC	I	
82	VR	O	V-reset pulse input
84	REFH	O	Reference pulse output for HPLL
86	FV	O	FV pulse output
89	FH	O	FH pulse output
93	FF	O	FF pulse output
95	H	O	H pulse output
98	LALT	O	Line alternated signal output for PAL.

• H Timming

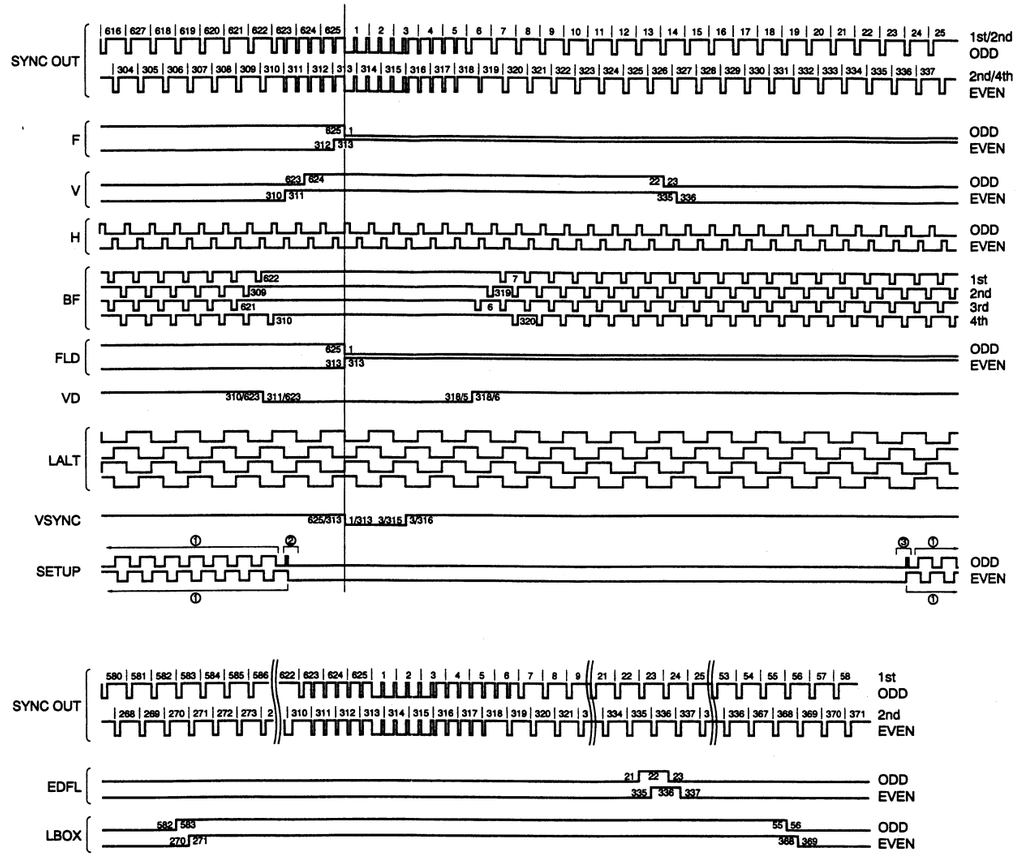


• V Timming

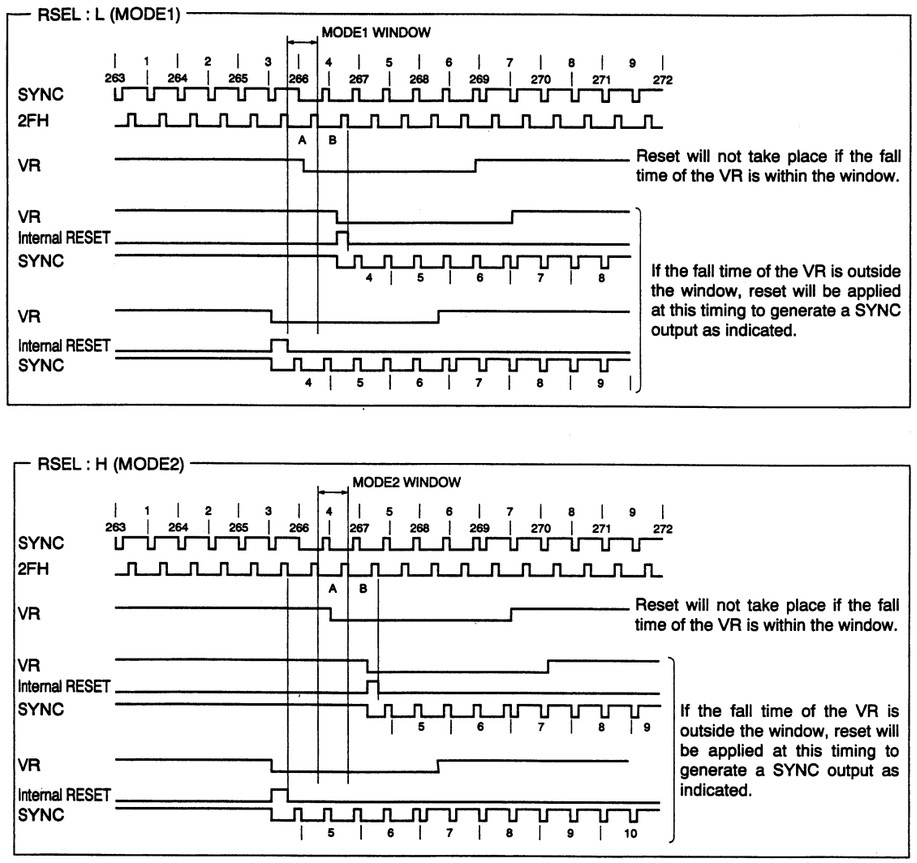


4-55

• **V Timming (PAL)**



• **V Reset (NTSC)**



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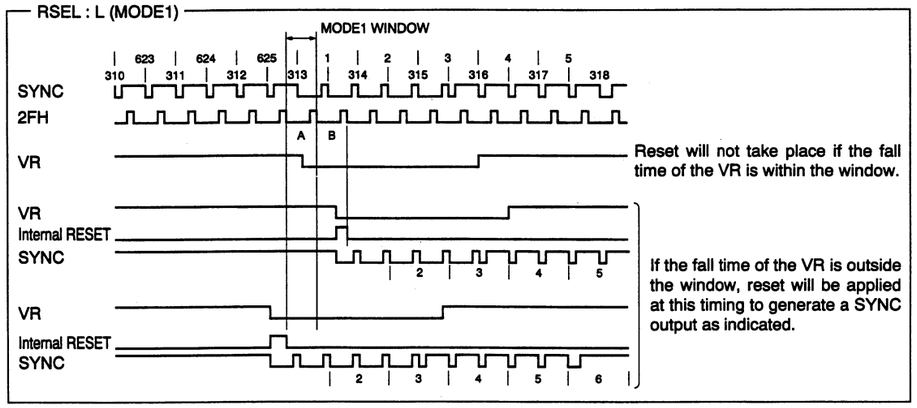
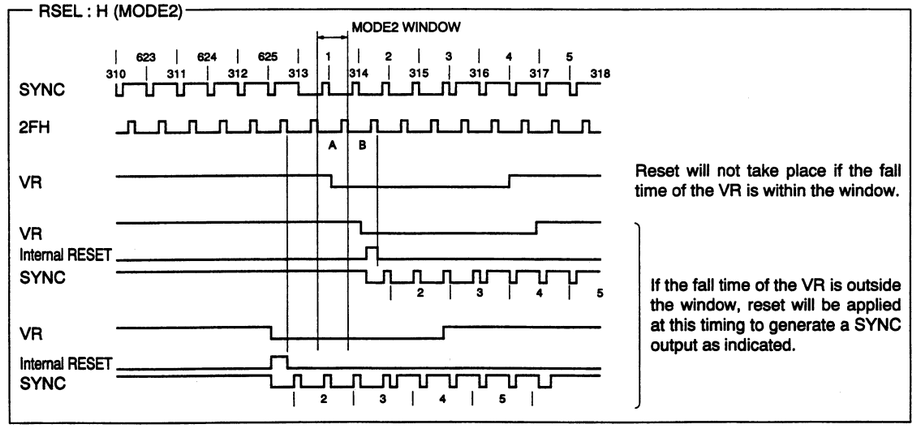
• **V Reset (PAL)**

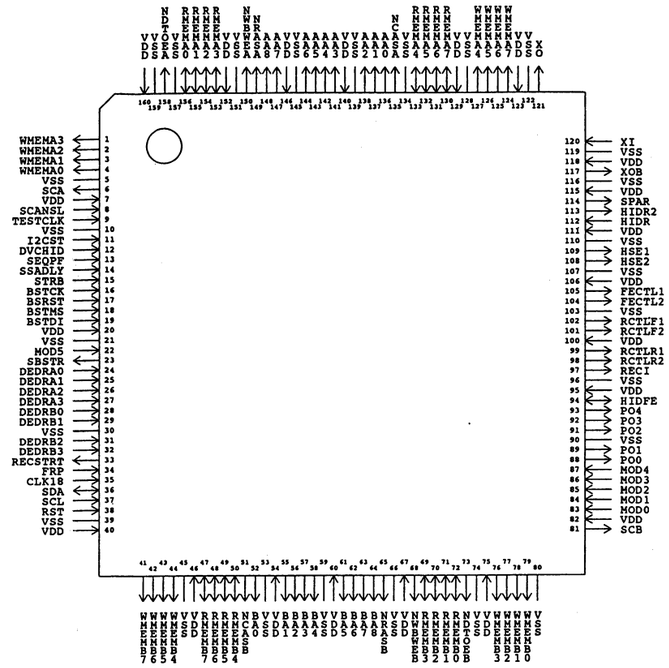


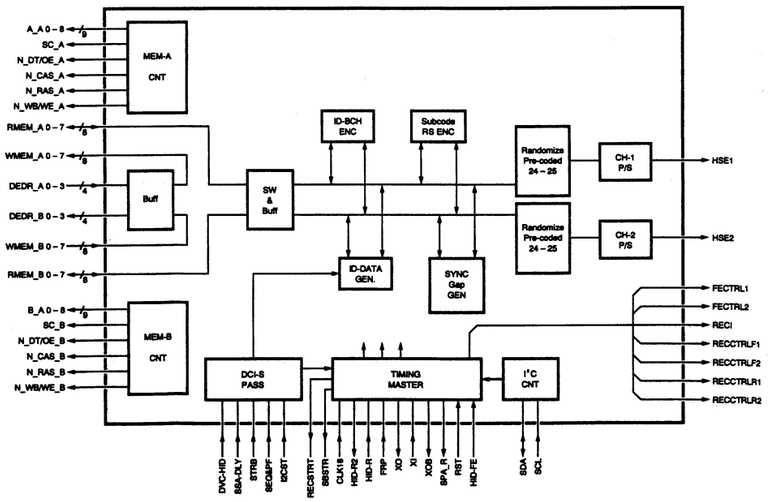


• **D SYNC, DBF**

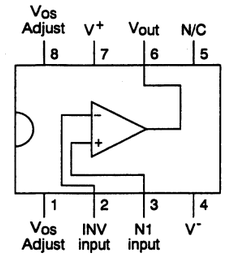
SIGNAL	DSEL 3	2	1
27 MHz CK BF/SYNC			
DBF/SYNC	0	0	0
	0	0	1
	0	1	0
	0	1	1
	1	0	0
	1	0	1
	1	1	0
	1	1	1

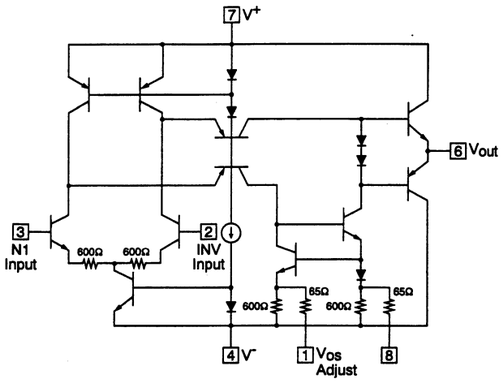
■ **JCL0029 【JVC】**
(Digital Channel Integrated Circuit (DCI) for Recoding)



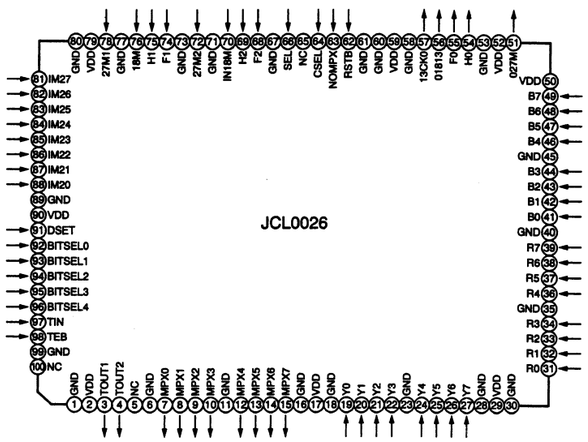


■ **LM6361M-X 【NATIONAL SEMICONDUCTOR】**
(High Speed Op. Amplifier)



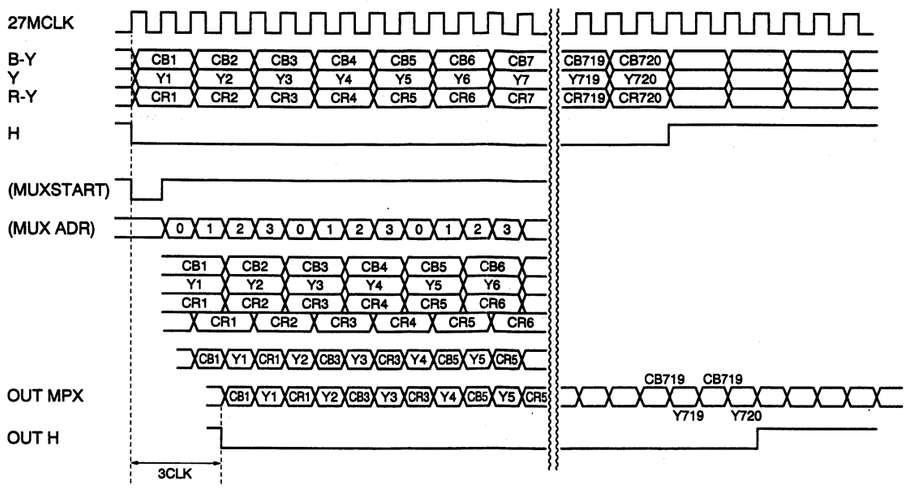


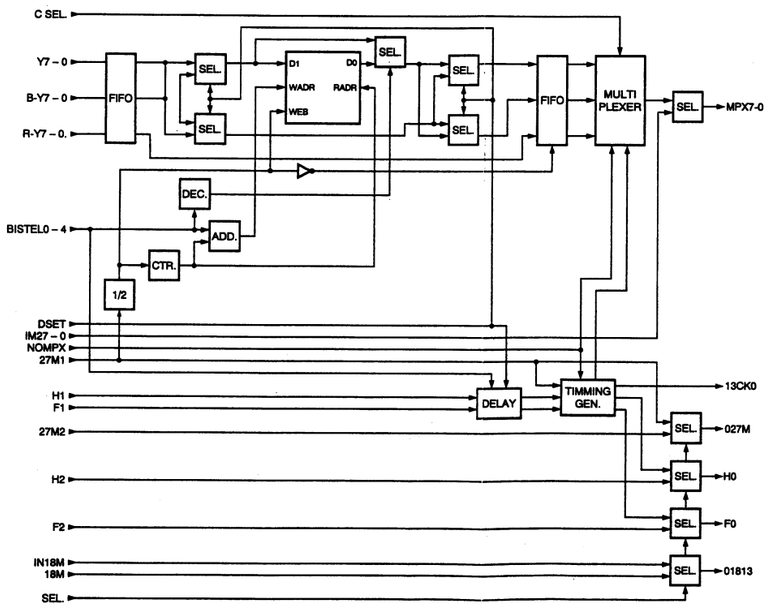
■ JCL0026 【JVC】
(8-bit Multiplexer of Digital Component Signal)



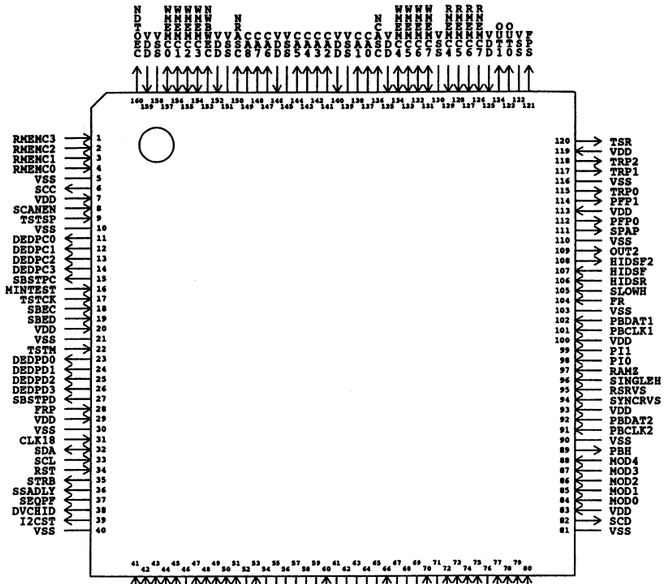
NC : Not Connected

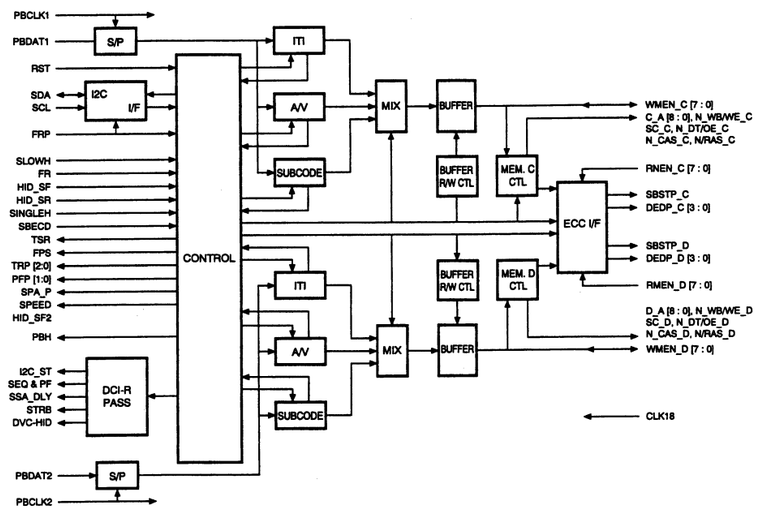
Pin No.	Name	I/O	Function
3, 4	T OUT 1, 2	O	Test terminals of internal RAM. Nomally open.
7-10, 12-15	MPX0-7	O	8 bit multiplexer outputs.
19-22, 24-27	Y0-7	I	8 bit digital Y signal inputs.
31-34, 36-39	R0-7	I	8 bit digital R-Y signal inputs.
41-44, 46-49	B0-7	I	8 bit digital B-Y signal inputs.
51	027M	O	27 MHz clock output.
54	H0	O	H pulse output.
55	F0	O	Field index pulse output.
56	01813	O	18 MHz clock output.
57	13CKO	O	27/2 MHz (13.5 MHz) clock output.
62	RSTB	I	Reset signal input.
63	NOMPX	I	Multiplexer ON/OFF input. (H : ON, L : OFF)
64	CSEL	I	8-bit digital signals input select. (H : Component, L : Y/C)
66	SEL	I	Clock outputs select. (H : 27M1, H1, F1, IN18M outputs, L : 27M2, H2, F2, 18M outputs)
68	F2	I	Field index pulse input. (from digital I/O)
69	H2	I	H pulse input. (from digital I/O)
70	IN18M	I	18 MHz clock input. (from digital I/O)
72	27M2	I	27 MHz clock input. (from digital I/O)
74	F1	I	Reference Field index pulse input.
75	H1	I	Reference H pulse input.
76	18M	I	Reference 18 MHz clock input.
78	27M1	I	Reference 27 MHz clock input.
81-88	IM27-20	I	Multiplex data inputs. (from digital I/O)
91	DSET	I	Data set timing pulse input. (H : B-Y, R-Y, L : Y)
92-96	BITSEL0-4	I	Phase shift data for input signal
97	TIN	I	Test terminal of internal RAM. Nomally open.
98	TEB	I	Test terminal of internal RAM. Nomally open.





■ JCL0030 【JVC】
(Digital Channel Integrated Circuit (DCI) for Playback)





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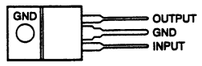
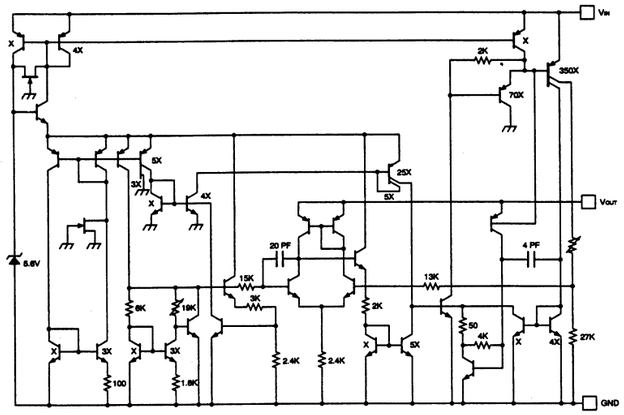
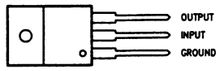
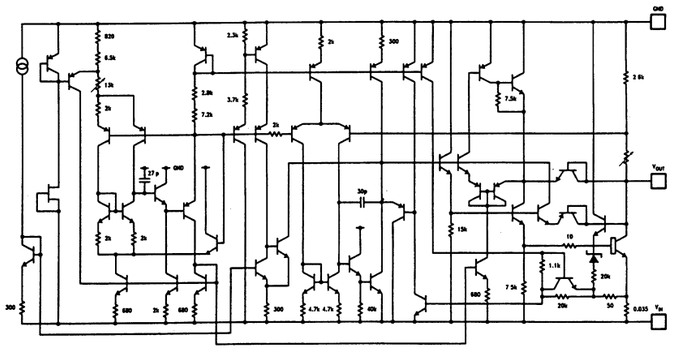
■ LM2940S-5.0-W 【NATIONAL SEMICONDUCTOR】
(+5V Low Drop-Output Positive Voltage Regulator)



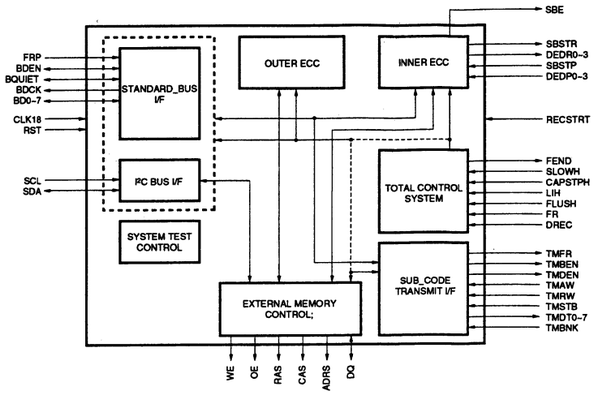


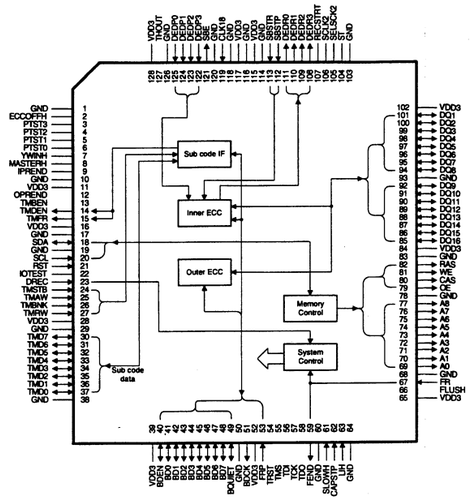
■ LM2990S-5.0-W 【NATIONAL SEMICONDUCTOR】
(-5V Low Drop-Output Negative Voltage Regulator)





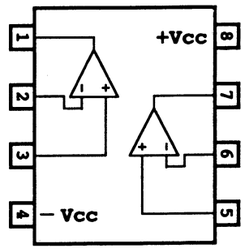
■ L7A1433 【LSI LOGIC】
(Error Correcting Codes (ECC))





Pin No.	Label	In/Out	Description
1	GND	–	Ground
2	ECCOFFH	–	Not used (Low fixed)
3	PTST3	–	Not used (Low fixed)
4	PTST2	–	Not used (Low fixed)
5	PTST1	–	Not used (Low fixed)
6	PTST0	–	Not used (Low fixed)
7	TWINH	–	Not used (Low fixed)
8	MASTERH	–	Not used (Low fixed)
9	IPREND	–	Not used (Low fixed)
10	GND	–	Ground
11	VDD3	–	Power supply (+3V)
12	OPREND	–	Not used
13	TMBEN	–	Not used
14	TMDEN	Out	Communication enable of sub code bus
15	TMFR	Out	Frame detect (1st track: H)
16	VDD3	–	Power supply (+3V)
17	GND	–	Ground
18	SDA	In/Out	Data for IIC
19	GND	–	Ground
20	SCL	In	Clock for IIC
21	RST	In	System reset
22	IOTEST	–	Not used (High fixed)
23	DREC	In	Signal REC: H
24	TMSTB	In	Data strobe of sub code bus
25	TMAW	In	Address strobe of sub code bus
26	TMBNK	In	Bank select
27	TMRW	In	Read/Write of sub code bus (Write: H)
28	VDD3	–	Power supply (+3V)
29	GND	–	Ground
30	TMDT7	In/Out	Adderss and data of sub code bus
31	TMDT6	In/Out	
32	TMDT5	In/Out	
33	TMDT4	In/Out	
34	TMDT3	In/Out	
35	TMDT2	In/Out	
36	TMDT1	In/Out	
37	TMDT0	In/Out	
38	GND	–	Ground
39	VDD3	–	Power supply (+3V)
40	BDEN	In/Out	DV bus data enable
41	BD0	In/Out	DV bus data (9 MHz/8 bit)
42	BD1	In/Out	
43	BD2	In/Out	
44	BD3	In/Out	
45	BD4	In/Out	
46	BD5	In/Out	
47	BD6	In/Out	
48	BD7	In/Out	
49	BQUIET	In/Out	DV bus busy
50	GND	–	Ground
51	BDCK	Out	DV bus data clock (9 MHz)
52	VDD3	–	Power supply (+3V)
53	FRP	In	Frame pulse
54	TRST	–	
55	TMS	–	
56	TDI	–	
57	TCK	–	
58	TDO	–	
59	FEND	Out	Frame end pulse for slow and still
60	GND	–	Ground
61	SLOWH	In	Slow mode flag (Slow mode: H)
62	CAPSTP	In	Capstan stop flag (Capstan stop mode: H)
63	LIH	In	Interval slow or linear slow flag (Linear slow mode: H)
64	GND	–	Ground
65	VDD3	–	Power supply (+3V)
66	FLUSH	–	Data transition pulse for field advance (Not used)
67	FR	In	Capstan foward/reverse (REV: H)
68	GND	–	Ground
69	A0	Out	(A0: LSB)
70	A1	Out	
71	A2	Out	
72	A3	Out	
73	A4	Out	Memory address (9 MHz)
74	A5	Out	
75	A6	Out	
76	A7	Out	
77	A8	Out	(A8: MSB)
78	GND	–	Ground
79	OE	Out	Memory output enable (active: L)
80	CAS	Out	Memory column address strobe
81	WE	Out	Memory write enable (active: L)
82	RAS	Out	Memory row address strobe
83	GND	–	Ground
84	VDD3	–	Power supply (+3V)
85	DQ16	In/Out	(DQ16: MSB)
86	DQ15	In/Out	Memory data (16 bit)
87	DQ14	In/Out	
88	DQ13	In/Out	
89	DQ12	In/Out	
90	DQ11	In/Out	Memory data (16 bit)
91	DQ10	In/Out	
92	DQ9	In/Out	
93	GND	–	Ground
94	DQ8	In/Out	
95	DQ7	In/Out	
96	DQ6	In/Out	Memory data (16 bit)
97	DQ5	In/Out	
98	DQ4	In/Out	
99	DQ3	In/Out	
100	DQ2	In/Out	
101	DQ1	In/Out	(DQ1: LSB)
102	VDD3	–	Power supply (+3V)
103	GND	–	Ground
104	ST	–	Not used (Low fixed)
105	SELSCK2	–	Not used (Low fixed)
106	SCLK2	–	Not used (Low fixed)
107	RECSTRT	In	REC track start pulse
108	DEDR3	Out	(DEDR3: MSB)
109	DEDR2	Out	REC data to DCI (9 MHz/4 bit)
110	DEDR1	Out	
111	DEDR0	Out	(DEDR0: LSB)
112	SBSTP	In	Sync. block start pulse (PB)
113	SBSTR	In	Sync. block start pulse (REC)
114	GND	–	Ground
115	VDD3	–	Power supply (+3V)
116	GND	–	Ground
117	VDD3	–	Power supply (+3V)
118	GND	–	Ground
119	CLK18	In	System clock input (18 MHz) from CLK OSC IC (IC401)
120	GND	–	Ground
121	SBE	Out	Sync block error
122	DEDP3	In	(DEDP3: MSB)
123	DEDP2	In	PB data from DCI (9MHz/4 bit)
124	DEDP1	In	
125	DEDP0	In	(DEDP0: LSB)
126	GND	–	Ground
127	THOUT	–	Not used
128	VDD3	–	Power supply (+3V)

■ M5216FP-X 【MITSUBISHI】
(Dual Op Amp.)



(TOP VIEW)

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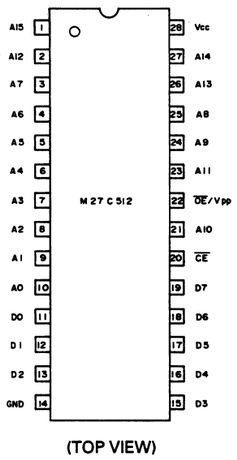
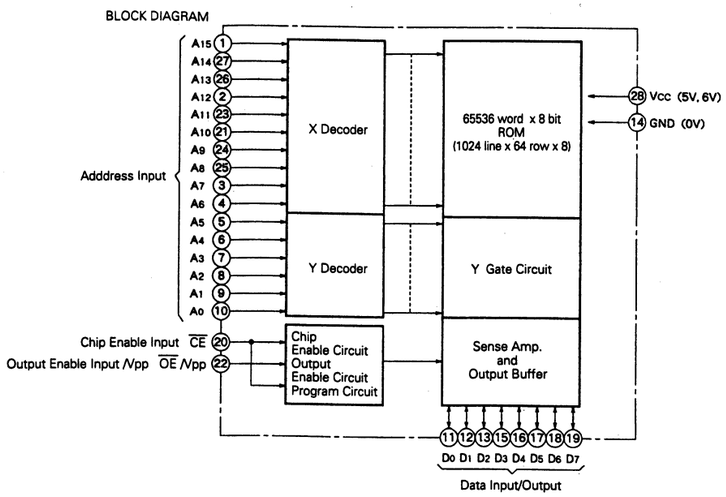
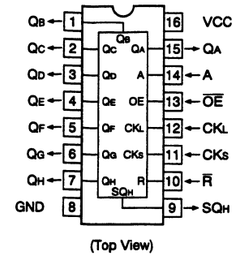
■ PLSL1019 【JVC】
(512k Byte One Time P-ROM)

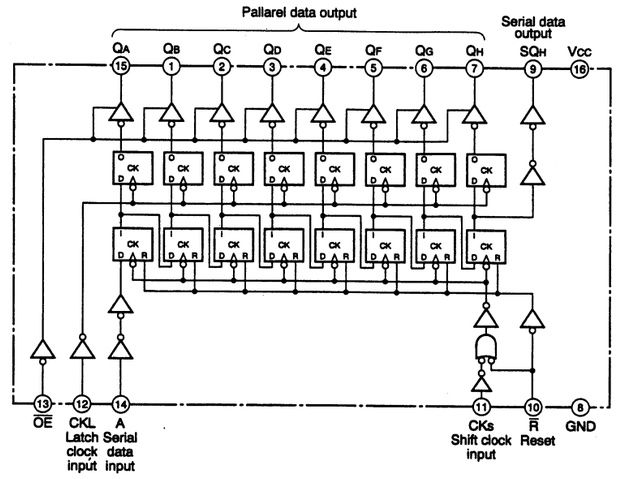


(TOP VIEW)

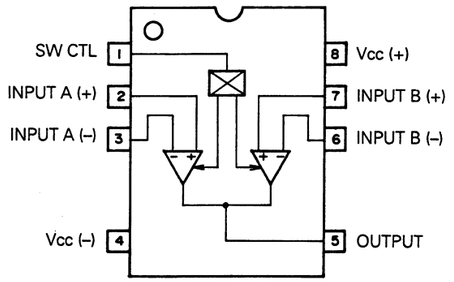


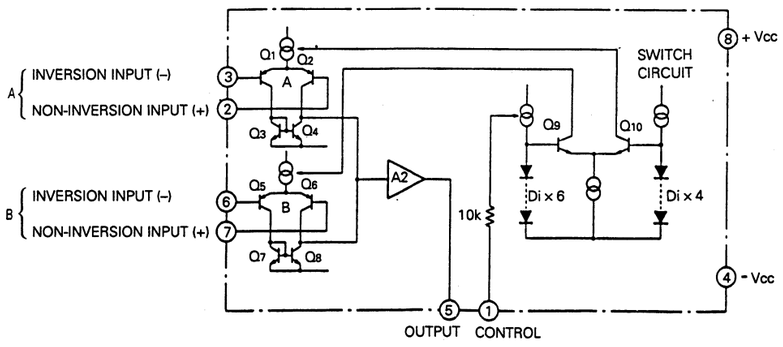
■ M66312FP-X 【MITSUBISHI】
(8 Bit LED Driver with Shift Register and Latched 3-State Outputs)



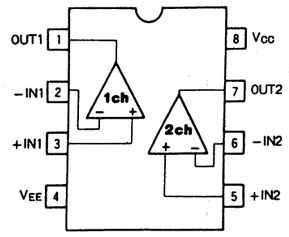


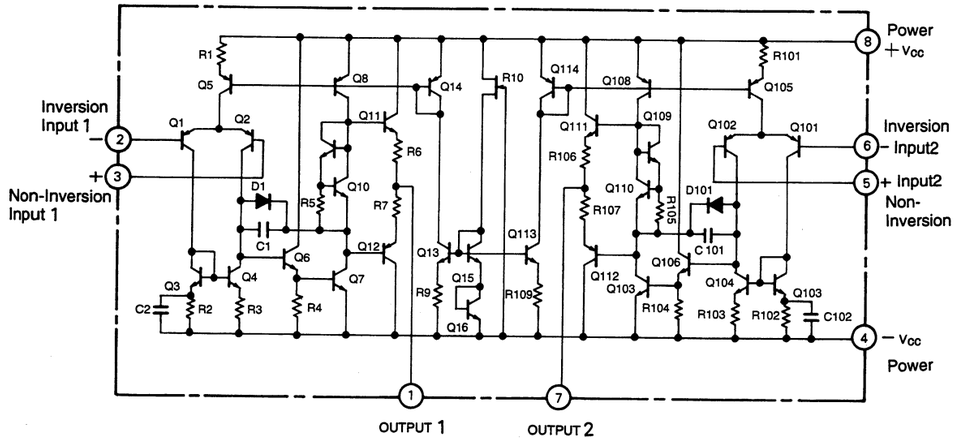
■ M5201FP-X 【MITSUBISHI】
(Switch Op Amp.)



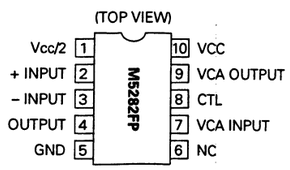


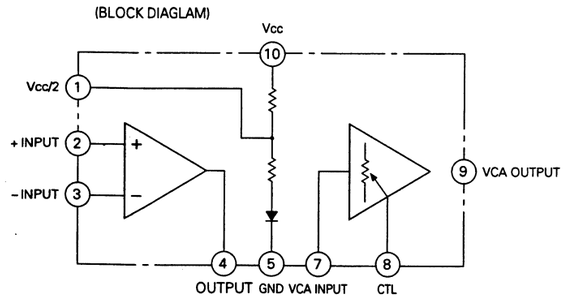
■ M5218AFP-X 【MITSUBISHI】
(Dual Op.Amp)





■ M5282FP-X 【MITSUBISHI】
(VCA and Op Amp.)





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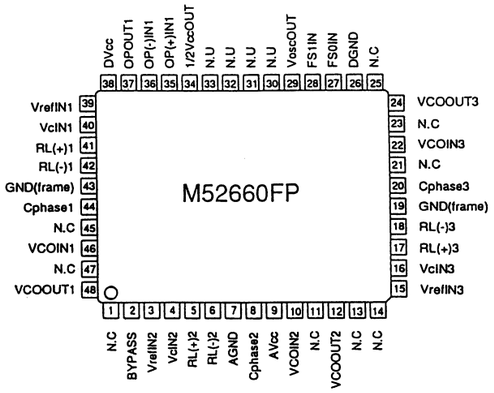
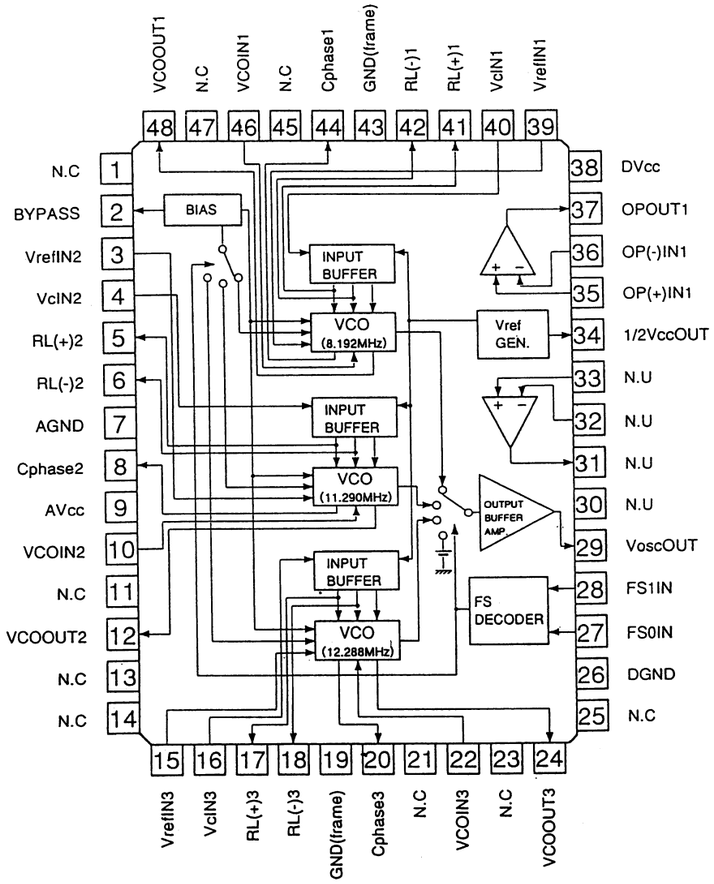
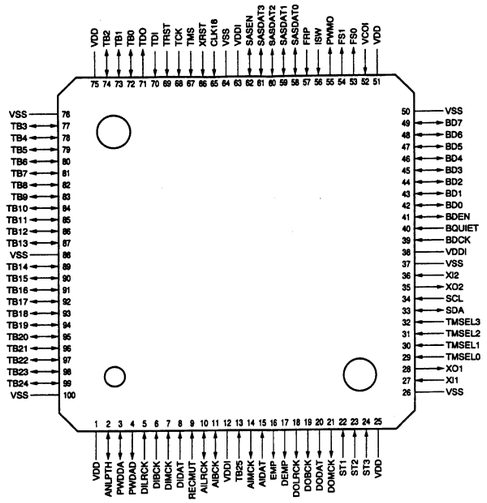
■ M52660FP 【MITSUBISHI】
(3 Channel VCO)



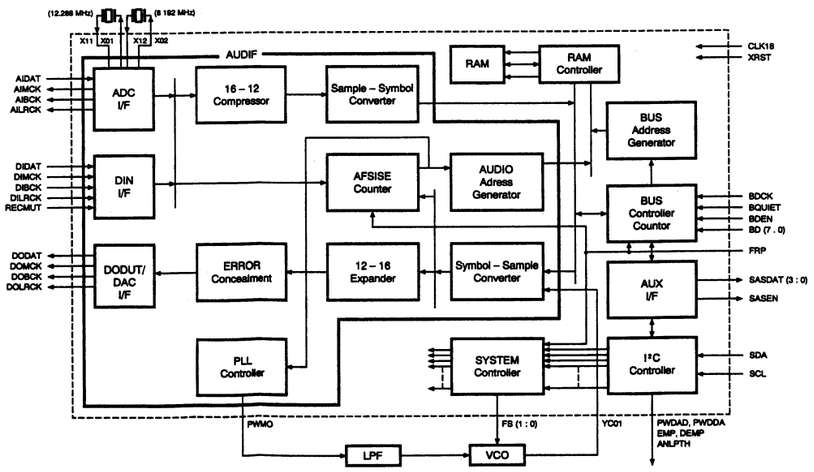


■ M65401FP 【MITSUBISHI】
(Digital Signal Processor for Audio Signal)



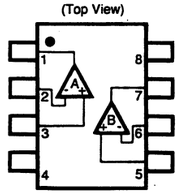
Pin Number	Pin Name	Function	I/O
1	VDD	Outer Power	–
2	ANLPTH	Analog loop through(H:through)	B
3	PWDDA	Power down for DAC(L:power down)	B
4	PWDAD	Power down for ADC(L:power down)	O
5	DILRCK	L/R clock from Digital In	I
6	DIBCK	Bit clock from Digital In	I
7	DIMCK	Master clock from Digital In	I
8	DIDAT	Serial Data from Digital In	I
9	RECMUT	Rec Data Mute	I
10	AILRCK	L/R clock for ADC	B
11	AIBCK	Bit clock for ADC	B
12	VDDI	Inner Power	–
13	TB[25]	Test Bus	I
14	AIMCK	Master clk for ADC(256 • fs)	O
15	AIDAT	Serial Data from ADC	I
16	EMP	ADC emphasis control	O
17	DEMP	DAC De-emphasis control	O
18	DOLRCK	L/R clock for DAC/D-OUT	O
19	DOBCK	Bit clock for DAC/D-OUT	O
20	DODAT	Serial Data for DAC/D-OUT	O
21	DOMCK	Master clock for DAC/D-OUT(256 • fs)	O
22	ST1	Scan Test Mode Select(L:enable)	I
23	ST2	Scan Test Clock	I
24	ST3	Scan Test Data Input	I
25	VDD	Outer Power	–
26	VSS	GND	–
27	XI1	12.288MHz X'tal port(48kHz)	I
28	XO1	12.288MHz X'tal port(48kHz)	O
29	TMSEL[0]	Test Mode Select	I
30	TMSEL[1]	Test Mode Select	I
31	TMSEL[2]	Test Mode Select	I
32	TMSEL[3]	Test Mode Select	I
33	SDA	I2C data line	B
34	SCL	I2C clock line	I
35	XO2	8.192MHz X'tal port(32kHz)	O
36	XI2	8.192MHz X'tal port(32kHz)	I
37	VSS	GND	–
38	VDDI	Inner Power	–
39	BDCK	DVC bus clock	I
40	BQUIET	DVC bus control	I
41	BDEN	DVC bus enable	B
42	BD[0]	DVC bus data	B
43	BD[1]	DVC bus data	B
44	BD[2]	DVC bus data	B
45	BD[3]	DVC bus data	B
46	BD[4]	DVC bus data	B
47	BD[5]	DVC bus data	B
48	BD[6]	DVC bus data	B
49	BD[7]	DVC bus data	B
50	VSS	GND	–

Pin Number	Pin Name	Function	I/O
51	VDD	Outer Power	–
52	VCOI	VCO clock input for PLL	I
53	FS[0]	Fs select for VCO	O
54	FS[1]	Fs select for VCO	O
55	PWMO	Phase comparator output of PLL	O
56	ISW	1mA or 4mA Change Control ("H"4mA,"L"1mA)	I
57	FRP	Frame Start from Shuffling	I
58	SASDAT[0]	Line Data to/from Shuffling	B
59	SASDAT[1]	Line Data to/from Shuffling	B
60	SASDAT[2]	Line Data to/from Shuffling	B
61	SASDAT[3]	Line Data to/from Shuffling	B
62	SASEN	Line Data Enable to Shuffling	B
63	VDDI	Inner Power	–
64	VSS	GND	–
65	CLK18	Master clock (18MHz)	I
66	XRST	Reset (L:reset)	I
67	TMS	Boundary Scan Test (Test Mode Select)	I
68	TCK	Boundary Scan Test (Test Clock)	I
69	TRST	Boundary Scan Test (Test Reset)	I
70	TDI	Boundary Scan Test (Test Data Input)	I
71	TDO	Boundary Scan Test (Test Data Output)	O
72	TB[0]	Test Bus	B
73	TB[1]	Test Bus	B
74	TB[2]	Test Bus	B
75	VDD	Outer Power	–
76	VSS	GND	–
77	TB[3]	Test Bus	B
78	TB[4]	Test Bus	B
79	TB[5]	Test Bus	B
80	TB[6]	Test Bus	B
81	TB[7]	Test Bus	B
82	TB[8]	Test Bus	B
83	TB[9]	Test Bus	B
84	TB[10]	Test Bus	B
85	TB[11]	Test Bus	B
86	TB[12]	Test Bus	B
87	TB[13]	Test Bus	B
88	VSS	GND	–
89	TB[14]	Test Bus	B
90	TB[15]	Test Bus	B
91	TB[16]	Test Bus	B
92	TB[17]	Test Bus	B
93	TB[18]	Test Bus	B
94	TB[19]	Test Bus	B
95	TB[20]	Test Bus	B
96	TB[21]	Test Bus	B
97	TB[22]	Test Bus	B
98	TB[23]	Test Bus	B
99	TB[24]	Test Bus	B
100	VSS	GND	–



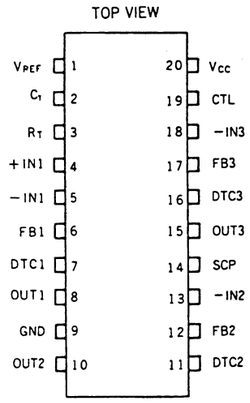
■ MC14577CF-X 【MOTOROLA】
(Dual Op.Amp)

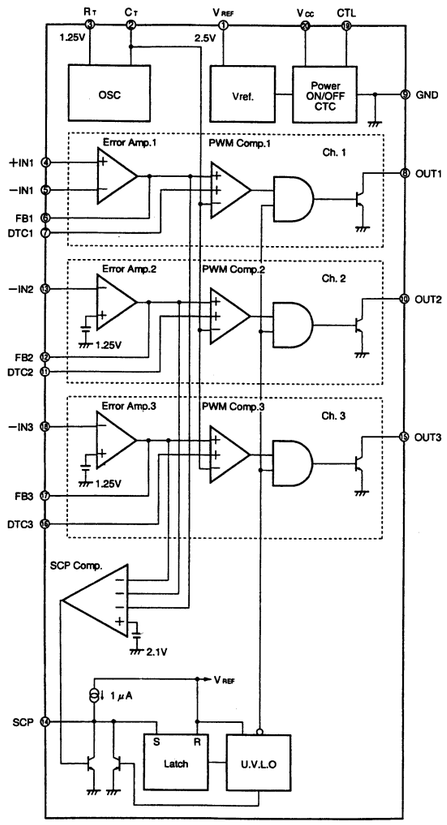
(Top View)



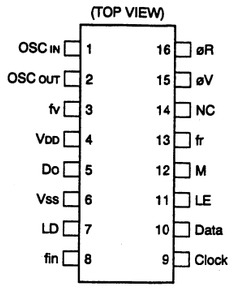
Pin
1 . A OUTPUT
2 . A−INPUT
3 . A+INPUT
4 . GROUND
5 . B+INPUT
6 . B−INPUT
7 . B OUTPUT
8 . V+

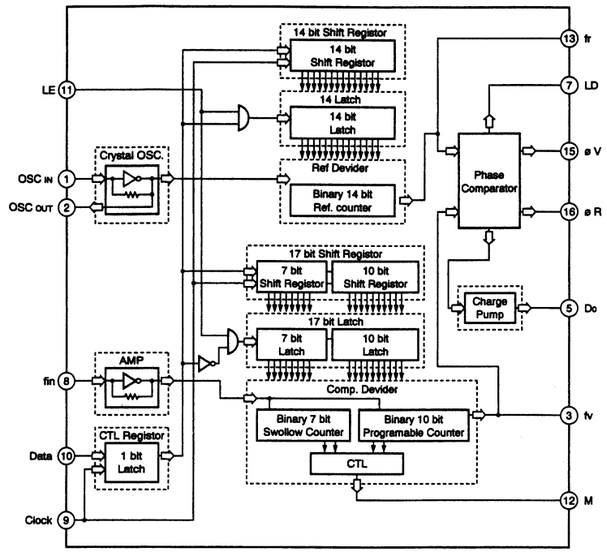
■ MB3782PF-X 【FUJITSU】
(Switching Regulator Controller)



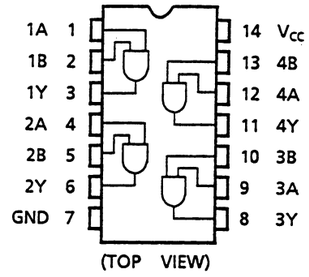


■ MB87087PF 【FUJITSU】
(Serial Input Phase Lock Loop Frequency Synthesizer)





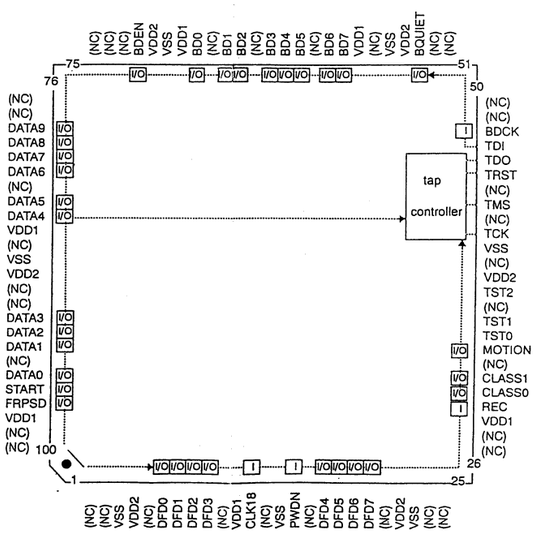
■ MC74HC08AF-X 【MOTOROLA】
(Quad 2-Input AND Gates)

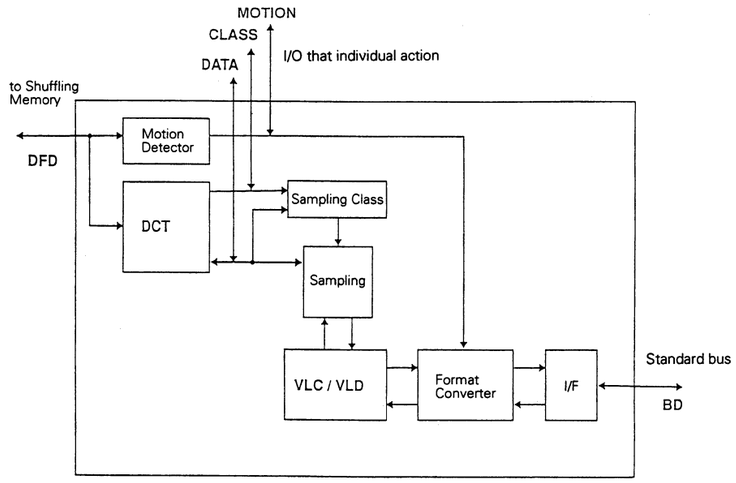


TRUE Table

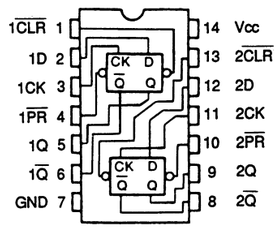
A	B	Y
L	L	L
L	H	L
H	L	L
H	H	H

■ MN67371F 【MATSUSHITA】
(Video Compression/Decompression LSI)





■ MC74HC74AF-X 【MOTOROLA】
(Dual D-Type Positive-EDGE-Triggered Flip-Flops With Preset AND Clear)



TRUE Table

INPUTS				OUTPUTS		FUNCTION
CLR	PR	D	CK	Q	Q	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	—
H	H	L	↑	L	H	—
H	H	H	↑	H	L	—
H	H	X	↓	Q_n	$\overline{Q}_n$	NO CHANGE

X : Don't care

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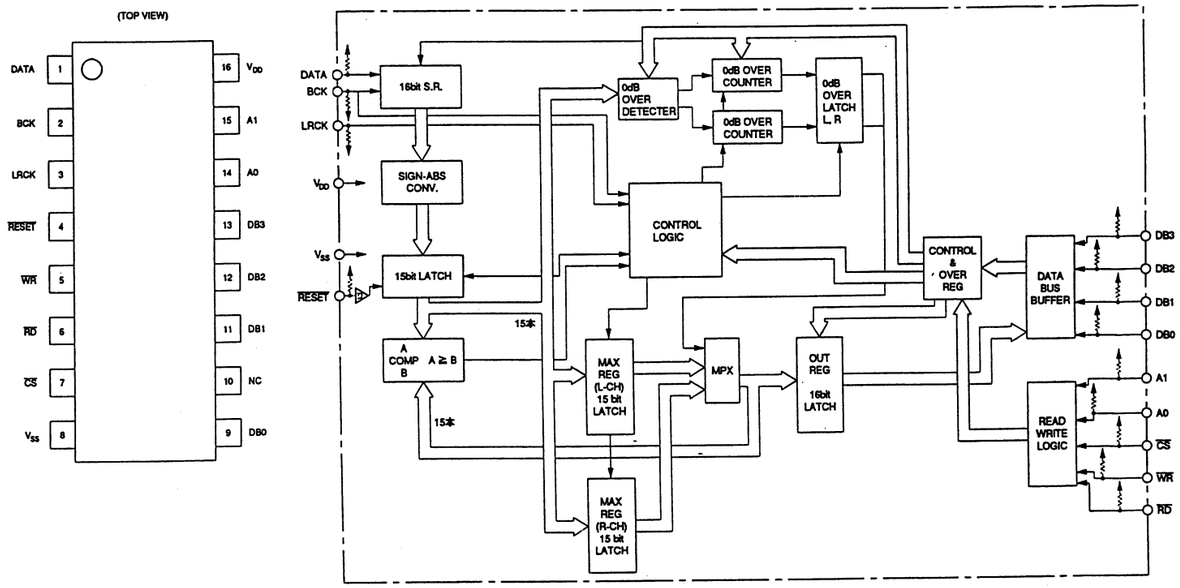
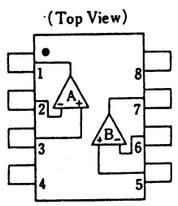
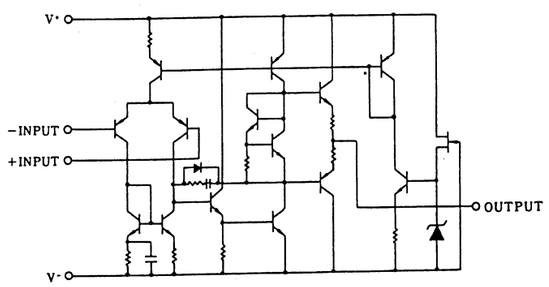
■ MSM6338MS-K 【OKI】
(Digital Peak Detector for PCM Audio)



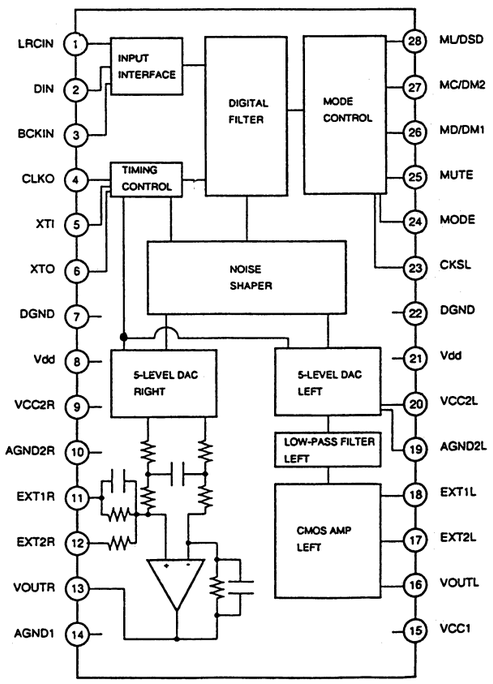
■ NJM2068M-D-X 【JRC】
(Dual Low-Noise Op.Amp)



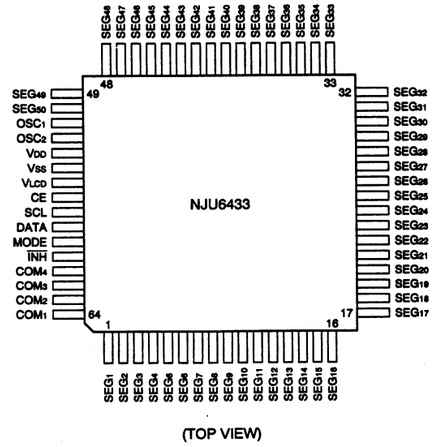
1. A OUTPUT
2. A−INPUT
3. A+INPUT
4. V⁻
5. B+INPUT
6. B−INPUT
7. B OUTPUT
8. V⁺



■ PCM1710U/G/-X 【BAR BRAWN】
(D/A Converter)

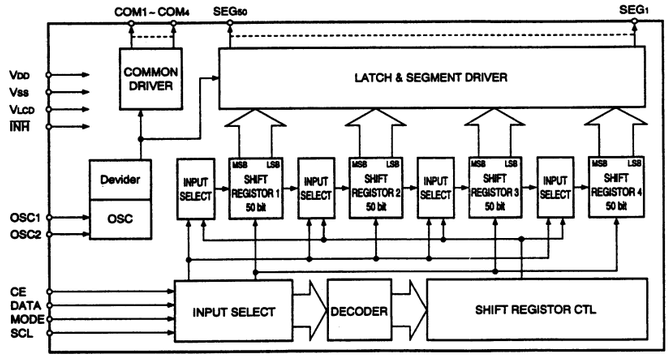


■ NJU6433FB2 【JRC】
(1/4 Duty LCD Driver)

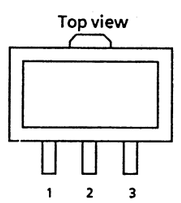


(TOP VIEW)

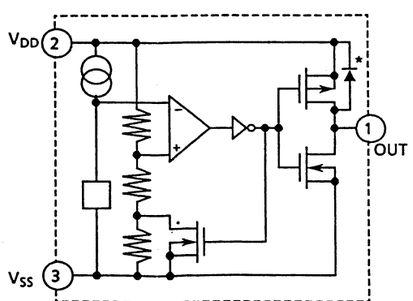
No.	Symbol	Function
1~50	SEG1~SEG50	Segment output for LCD driver
51 52	OSC1 OSC2	OSC terminal
53	VDD	
54	VSS	GND
55	VLCD	Power source for LCD drive
56	CE	H level : Data input Drop-down edge : Data latch L level : Disable
57	SCL	Clock input for serial data trancefar.
58	DATA	Serial data input.
59	MODE	H level : Mode seting L level : Data input for LCD display
60	$\overline{INH}$	L level : LCD is not display H level : LCD is display
61~64	COM4~COM1	Common output for LCD drive.



■ S-8054HN-CB-X 【SEIKO INSTRUMENTS】
(C-MOS Voltage Detector)



1 OUT
2 V_{DD}
3 V_{SS}



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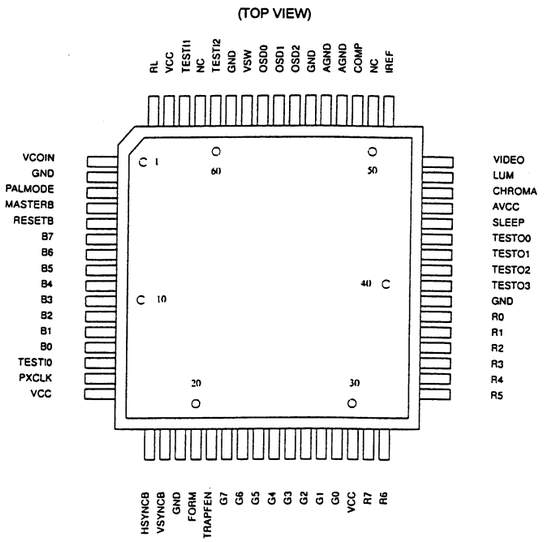
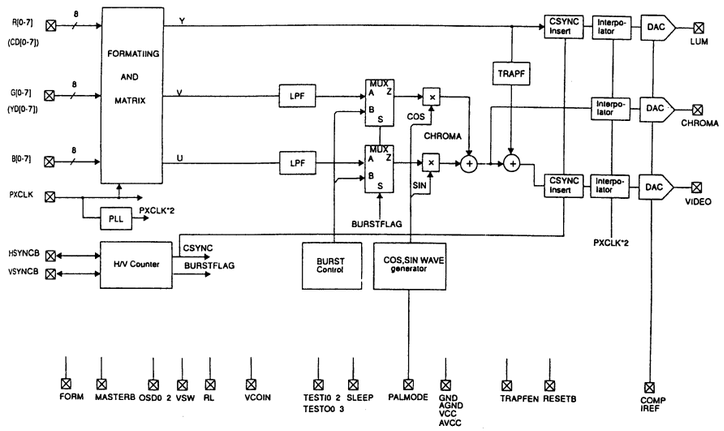
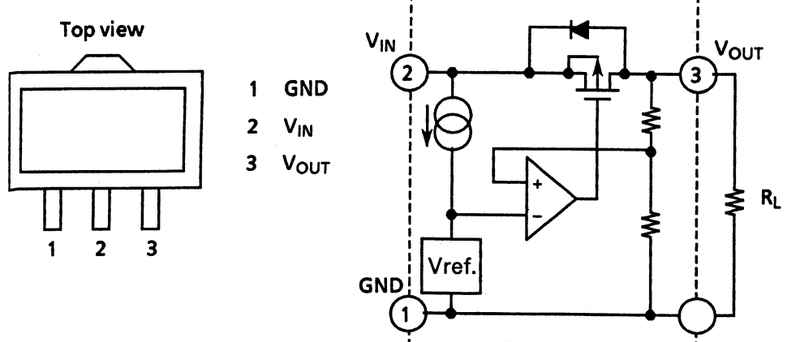
■ RL5C292-001 【RICOH】
(Digital Video Encoder)

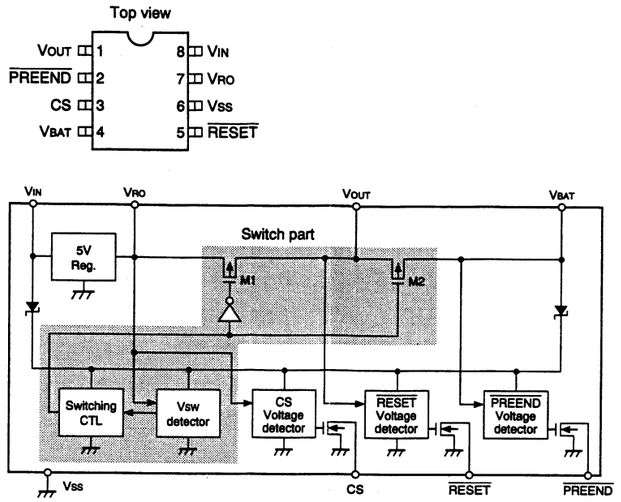




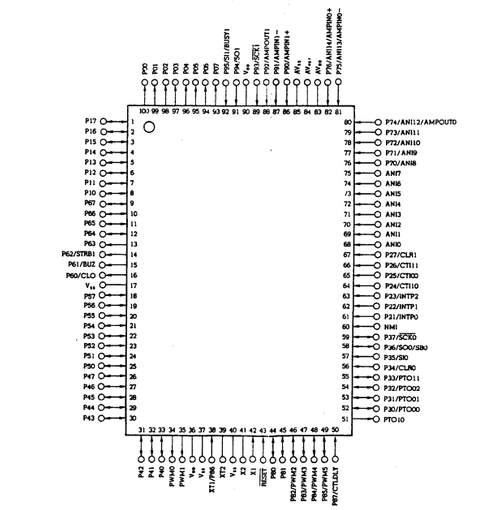
■ S-81224PG-PX-X 【SEIKO】
■ S-81240PG-PJ-X 【SEIKO】
(Voltage Regulator)



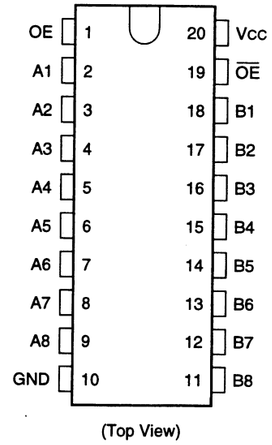
■ S-8420BF-X 【SEIKO】
(Battery Back-up Switching)



■ SC78148GF-026 【JVC】
(8-Bit Micro Computer)

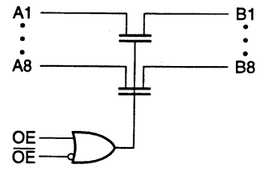


■ SN74CBT3245PW-X 【TEXAS】
(8 Bit Cross Bar Switch)

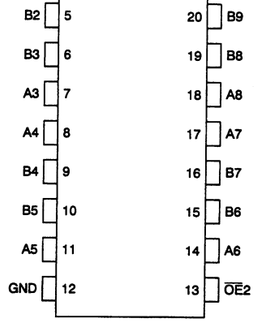


Inputs		Inputs/Outputs
OE	$\overline{OE}$	A, B
X	L	A=B
H	X	A=B
L	H	Z

H : High Level
L : Low Level
X : Don't Care
Z : High Impedance

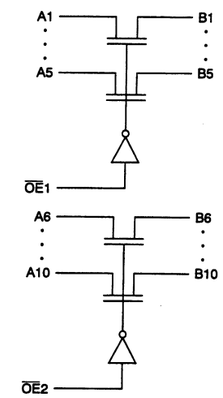


■ SN74CBT3384PW-X 【TEXAS】
(10 Bit Cross Bar Switch)



OE1	OE2	B1 – B5	B6 – B10
L	L	A1 – A5	A6 – A10
L	H	A1 – A5	Z
H	L	Z	A6 – A10
H	H	Z	Z

H : High Level
L : Low Level
X : Don't Care
Z : High Impedance



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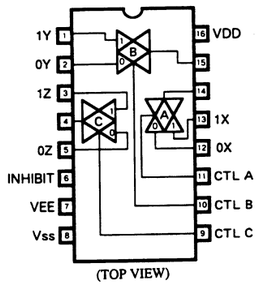
■ TC4053BF-X 【TOSHIBA】
(Triple 2 Channel Analog Multiplexers/ Demultiplexers)

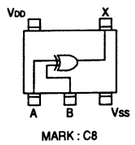


TRUTH TABLE

CONTROL INPUTS				"ON" CHANNEL
INHIBIT	C	B	A	4053BP 4053BF
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y,0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE

* Don't Care,

■ TC4S30F-X 【TOSHIBA】
(Single Exclusive OR Gate)

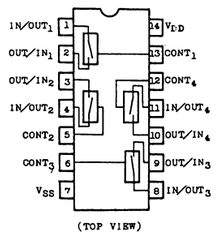


MARK : C8

TRUE TABLE

INPUT		OUTPUT
A	B	X
L	L	L
L	H	H
H	L	H
H	H	L

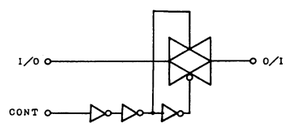
■ TC4066BF-X 【TOSHIBA】
(Quad Bilateral Switch)



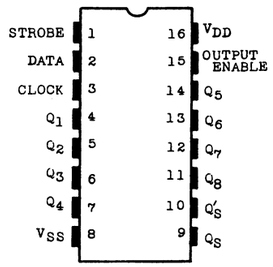
TRUTH TABLE

CONTROL	Impedance Between IN/OUT-OUT/IN *
H	$0.5\sim5\times10^{2}\Omega$
L	$>10^{9}\Omega$

LOGIC DIAGRAM



■ TC4094BF-X 【TOSHIBA】
(8 Stage Bus Compatible Shift/Store Register)

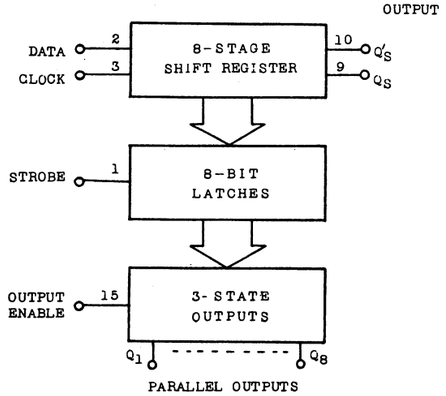


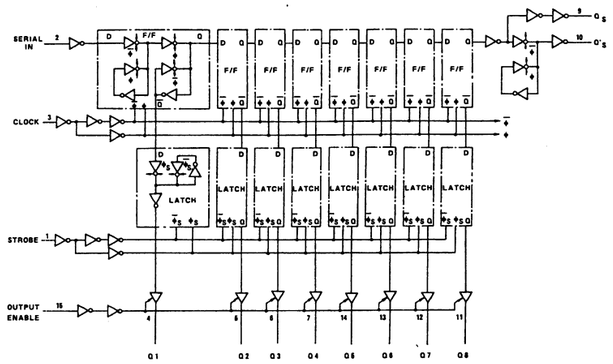
TRUTH TABLE

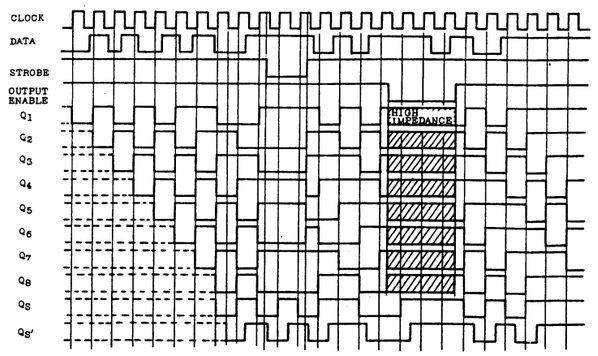
CL	OE	ST	D	PO		SO	
				Q_1	Q_n	Q_S	Q'_S
↓	H	H	L	L	Q_n-1	Q_7	NC
↓	H	H	H	H	Q_n-1	Q_7	NC
↓	H	L	*	NC	NC	Q_7	NC
↓	L	*	*	HZ	HZ	Q_7	NC
↑	H	*	*	NC	NC	NC	Q_S
↑	L	*	*	HZ	HZ	NC	Q_S

CL = Clock
OE = Output Enable
ST = Strobe
D = Data
PO = Parallel Outputs
SO = Serial Output
* = Don't care
NC = No Change
HZ = High Impedance

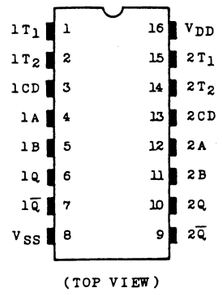
BLOCK DIAGRAM

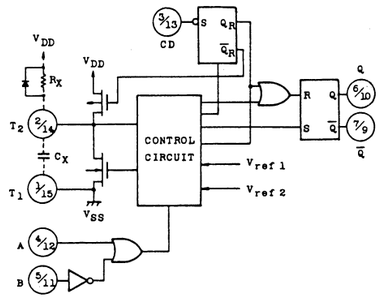






■ TC4538BF-X 【TOSHIBA】
(Dual Precision Monostable Multivibrator)



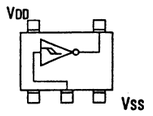


TRUTH TABLE

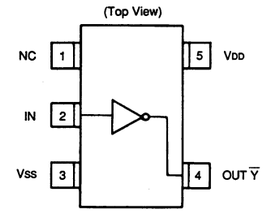
INPUT			OUTPUT		NOTE
A	B	CD	Q	Q̄	
↓	H	H	↑	↓	OUTPUT ENABLE
↓	L	H	L	H	INHIBIT
H	↑	H	L	H	INHIBIT
L	↑	H	↑	↓	OUTPUT ENABLE
*	*	L	L	H	INHIBIT

* Don't Care

■ TC4S584F-X 【TOSHIBA】
(Schmitt Triggerd Single Inverte Gate)

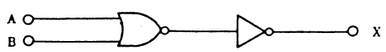


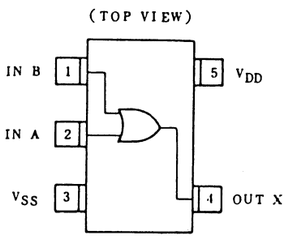
■ TC4S69F-X 【TOSHIBA】
(Inverter Gate)



■ TC4S71F-X 【TOSHIBA】
(2-Input OR Gate)

X = A + B





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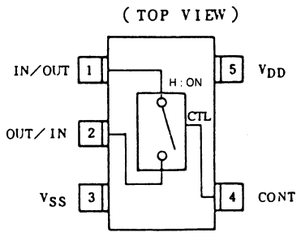
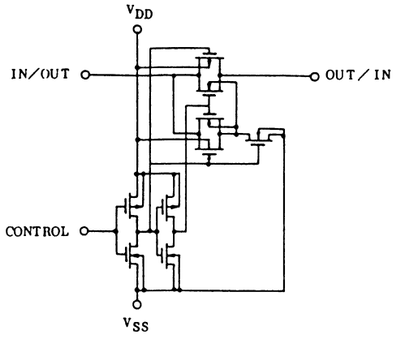
■ TC4S66F-X 【TOSHIBA】
(Bilateral Switch)

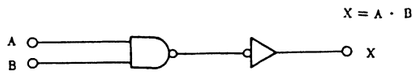


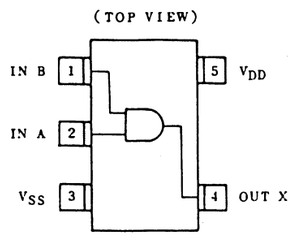


CONTROL	IMPEDANCE BETWEEN IN/OUT - OUT/IN *
H	$0.5 \sim 5 \times 10^2\ \Omega$
L	$> 10^9\ \Omega$

※ See Electrical Characteristics

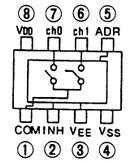
■ TC4S81F-W 【TOSHIBA】
(2-Input AND Gate)





■ TC4S81F-X 【TOSHIBA】
(Refer to TC4S81F-W.)

■ TC4W53F-X 【TOSHIBA】
(2-Channel Multiplexer)

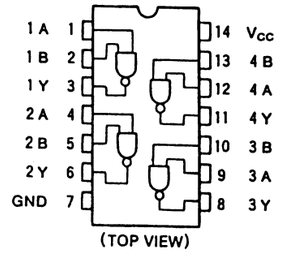


TRUE TABLE

CONTROL INPUT		ON CHANNEL
INH	ADR	
L	L	ch0
L	H	ch1
H	*	NONE

*Don't care

■ TC74HC00AF-X 【TOSHIBA】
(Quad 2-Input NAND Gates)

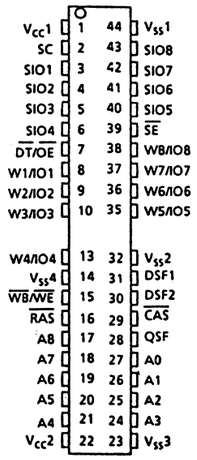


TRUE Table

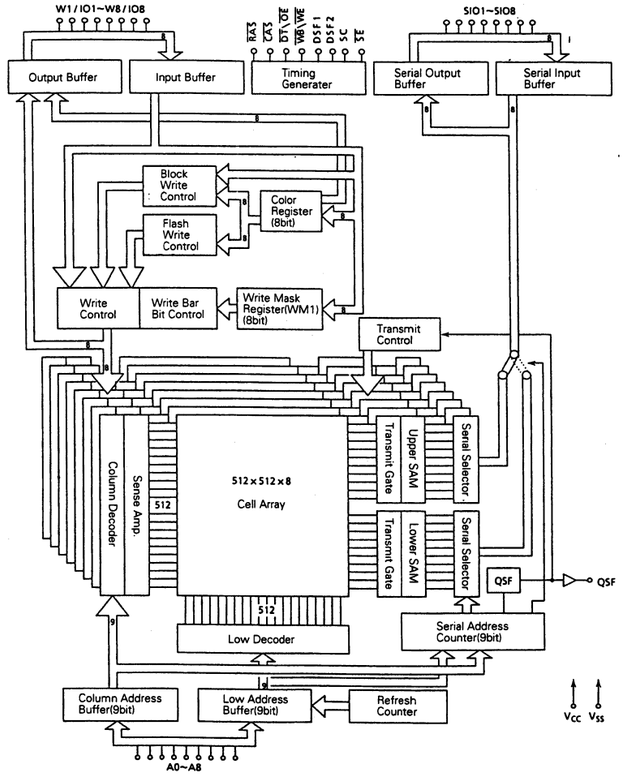
A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

■ TC74HC08AF-X 【TOSHIBA】
(Refer to MC74HC08AF-X.)

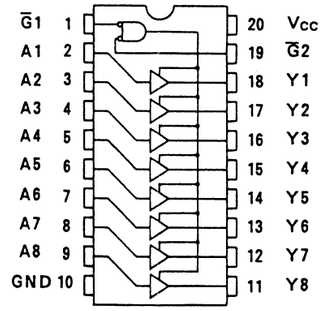
■ TC528267FT-70-X 【TOSHIBA】
(262,144 word x 8 Bit Multiport Dynamic RAM)



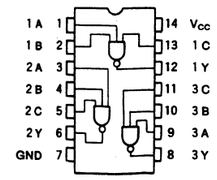
(Top View)



■ TC74ACT541F-X 【TOSHIBA】
(Octal Bus Buffer (3-State))



■ TC74HC107AF-X 【TOSHIBA】
(Triple 3-Input NAND Gates)

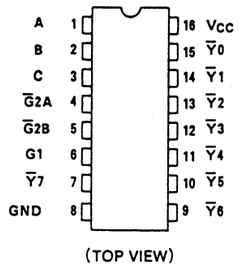


TRUE Table

A	B	C	Y
L	X	X	H
X	L	X	H
X	X	L	H
H	H	H	L

X : Don't Care

■ TC74HC138AF-X 【TOSHIBA】
(3-Line to 8-Line Decoders/Demultiplexers)

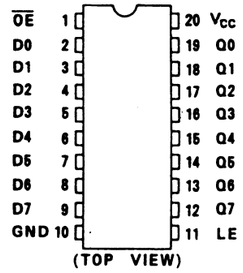


TRUE Table

INPUTS						OUTPUTS								SELECTED OUTPUT
ENABLE			SELECT											
G1	G2A	G2B	C	B	A	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	
L	X	X	X	X	X	H	H	H	H	H	H	H	H	NONE
X	H	X	X	X	X	H	H	H	H	H	H	H	H	NONE
X	X	H	X	X	X	H	H	H	H	H	H	H	H	NONE
H	L	L	L	L	L	L	H	H	H	H	H	H	H	Y0
H	L	L	L	L	H	H	L	H	H	H	H	H	H	Y1
H	L	L	L	H	L	H	H	L	H	H	H	H	H	Y2
H	L	L	L	H	H	H	H	H	L	H	H	H	H	Y3
H	L	L	H	L	L	H	H	H	H	L	H	H	H	Y4
H	L	L	H	L	H	H	H	H	H	H	L	H	H	Y5
H	L	L	H	H	L	H	H	H	H	H	H	L	H	Y6
H	L	L	H	H	H	H	H	H	H	H	H	H	L	Y7

X : DONT' CARE

■ TC74HC573AF-X 【TOSHIBA】
(Octal D-Type Latch With NON-Inverted 3-State Outputs)



TRUE Table

INPUTS			OUTPUTS
OE	LE	D	Q
H	X	X	HZ
L	L	X	Q_n
L	H	L	L
L	H	H	H

X : Don't care.
Z : Hi impedance
Q_n : Level of Q output before LE becomes "L".

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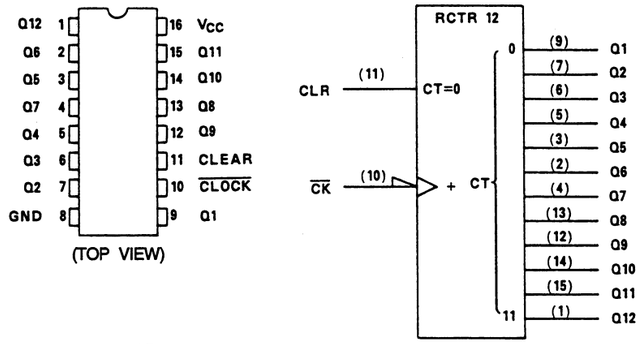
■ TC74HC4040AF-X 【TOSHIBA】
(Synchronous 12-Bit Binary Ripple Counters)

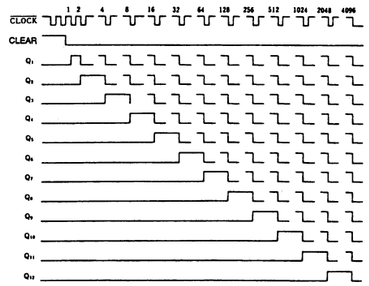


TRUTH TABLE

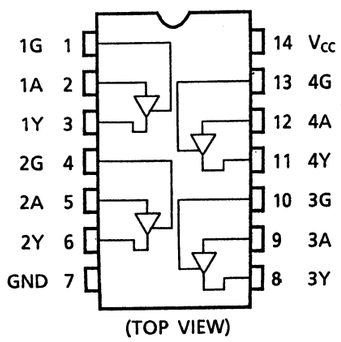
CLOCK	CLEAR	OUTPUT STATE
X	H	ALL OUTPUTS = "L"
↓	L	NO CHANGE
↑	L	ADVANCE TO NEXT STATE

X ; Don't care

Timing chart



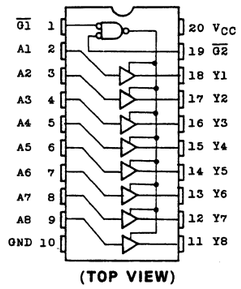
■ TC74VHC126F-X 【TOSHIBA】
(Quad 2-Input NAND Gate)



INPUTS		OUTPUTS
G	A	Y
L	X	Z
H	L	L
H	H	H

X: Don't Care
Z: High Impedance

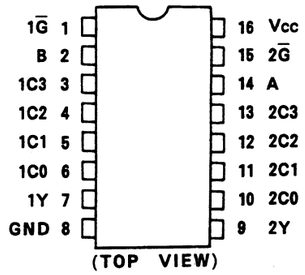
■ TC74HCT541AF-X 【TOSHIBA】
(Octal Bus Buffer With Inverted 3-State Outputs)



TRUE Table

INPUT			OUTPUT
$\overline{G}1$	$\overline{G}2$	A	Y
L	L	H	H
L	L	L	L
H	X	X	Z
X	H	X	Z

■ TC74VHC153F-X 【TOSHIBA】
(Dual 4-Channel Multiplexer)

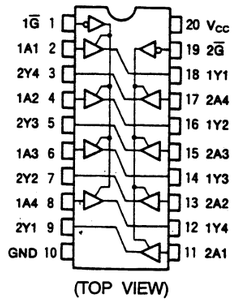


TRUTH TABLE

SELECT INPUTS		DATA INPUTS				STROBE	OUTPUT Y	
B	A	C0	C1	C2	C3	G	HC153A	HC253A
X	X	X	X	X	X	H	L	Z
L	L	L	X	X	X	L	L	L
L	L	H	X	X	X	L	H	H
L	H	X	L	X	X	L	L	L
L	H	X	H	X	X	L	H	H
H	L	X	X	L	X	L	L	L
H	L	X	X	H	X	L	H	H
H	H	X	X	X	L	L	L	L
H	H	X	X	X	H	L	H	H

X : Don't Care
Z : High Impedance

■ TC74LCX244F-X 【TOSHIBA】
(Low Voltage Octal Bus Buffer with 5V Tolerant Input And Outputs)

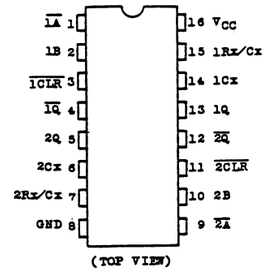


TRUE Table

INPUTS		OUTPUTS
$\overline{G}$	A_n	$\overline{Y}_n$
L	L	L
L	H	H
H	X	Z

X : Don't Care
Z : High Impedance

■ TC74VHC221AF-X 【TOSHIBA】
(Dual Monostable Multivibrators (With Schmitt Trigger Input))

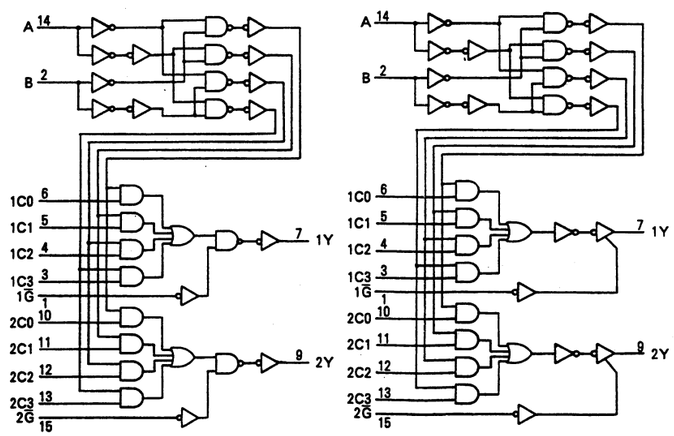


True Table

INPUTS			OUTPUTS		NOTE
$\overline{A}$	B	CL	Q	$\overline{Q}$	
↓	H	H	⎍	⎍	OUTPUT ENABLE
X	L	H	L	H	INHIBIT
H	X	H	L	H	INHIBIT
L	↓	H	⎍	⎍	OUTPUT ENABLE
L	H	↓	⎍	⎍	OUTPUT ENABLE
X	X	L	L	H	INHIBIT

X : DON'T CARE

BLOCK DIAGRAM



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■ TC74VHC244F-X 【TOSHIBA】
(Refer to TC74LCX244F-X.)

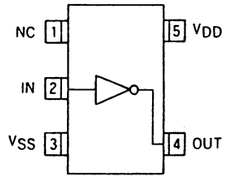
■ TC74VHC541F-X 【TOSHIBA】
(Refer to TC74HCT541AF-X.)

■ TC74VHC74F-X 【TOSHIBA】
(Refer to MC74HC74AF-X.)

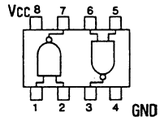
■ TC74VHCT541F-X 【TOSHIBA】
(Refer to TC74HCT541AF-X.)

■ TC7S04F-X 【TOSHIBA】
(Inverter)

Pin arangement



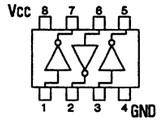
■ TC7W00F-X 【TOSHIBA】
(2 Input Dual NAND Gate)



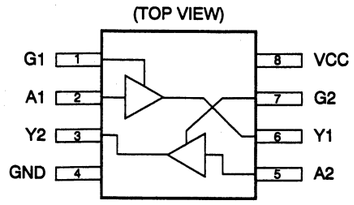
TRUE Table

A	B	X
L	L	H
L	H	H
H	L	H
H	H	L

■ TC7W04F-X 【TOSHIBA】
(Triple Inverter Gate)



■ TC7W126FU-X 【TOSHIBA】
(Dual Bus Buffer)

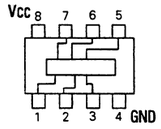


Truth Table

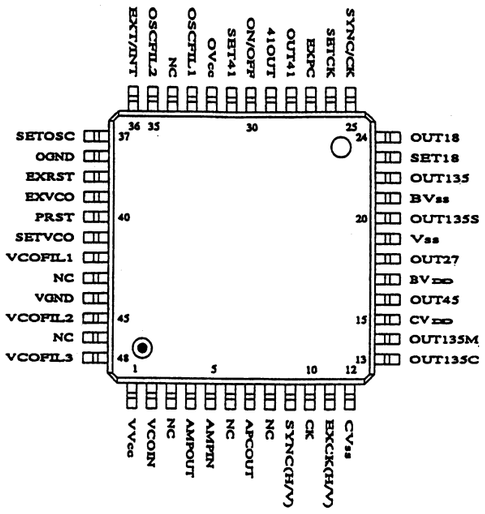
INPUTS		OUTPUTS
G	A	Y
L	X	Z
H	L	L
H	H	H

X : Don't Cate
Z : High Impedance

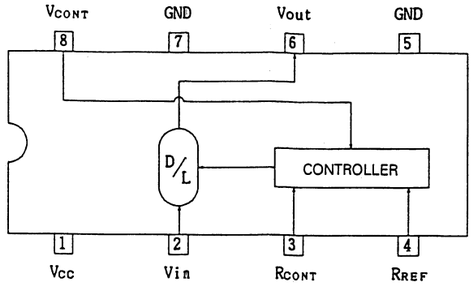
■ TC7W74F-X 【TOSHIBA】
(D-Q Flip-Flop)



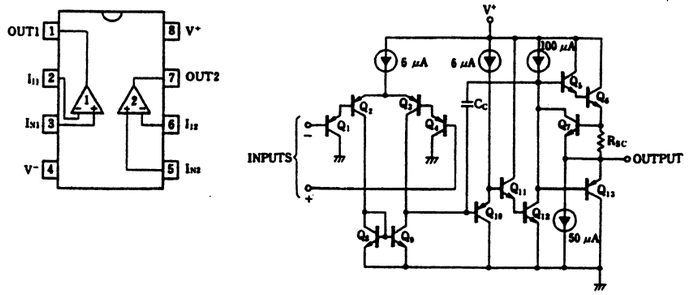
■ UPC2384GA 【NEC】
(Digital VTR PLL)



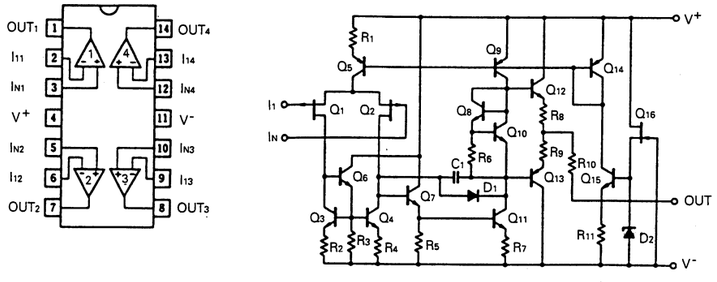
■ TK16031AMTL 【TOKO】
(Analog Delay line)



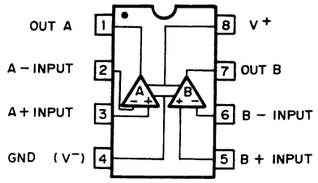
■ UPC358G2-X 【NEC】
(Dual Op.Amp.)

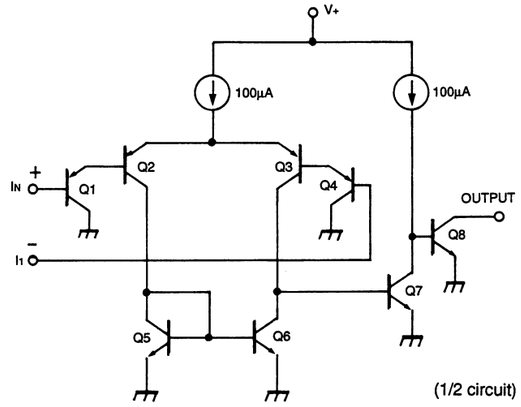


■ UPC4074G2-X 【NEC】
(Low Noise J-FET Quad Op.Amp.)

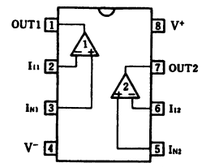


■ UPC393G2-X 【NEC】
(Dual Comparator)





■ UPC4082G2-X 【NEC】
(J-FET Input Dual Op-Amplifire)



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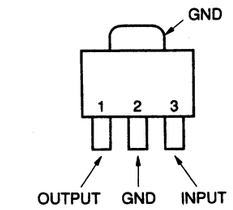
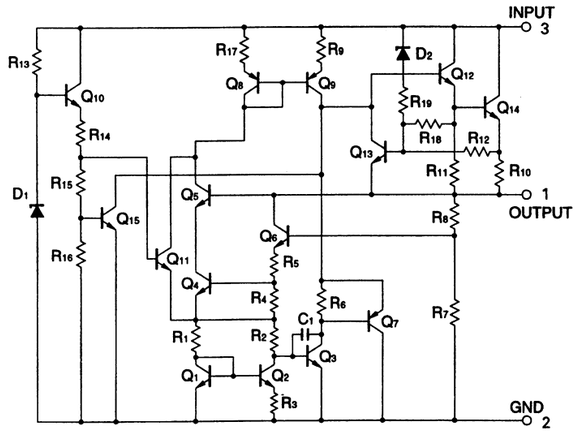
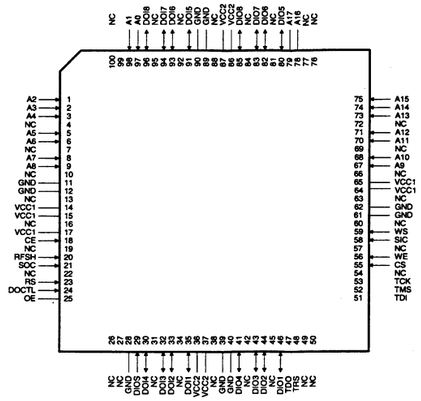
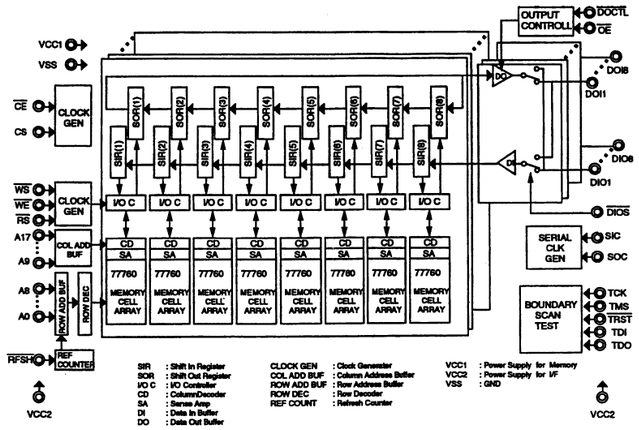
■ UPC78L05T-X 【NEC】
(Regulator)





■ UPD489001 【NEC】
(5M Bit Field Buffer)

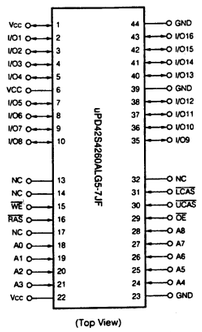


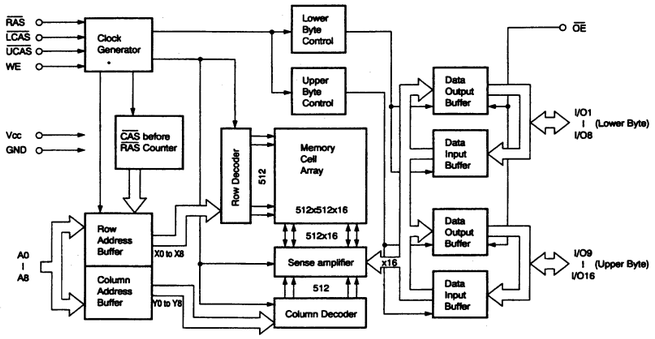


Pin No.	Label	In/Out	Description
1	A2	In	Shuffle memory address (18 MHz, 18 bit)
2	A3	In	
3	A4	In	
4	NC	-	Not used
5	A5	In	Shuffle memory address (18 MHz, 18 bit)
6	A6	In	
7	NC	-	Not used
8	A7	In	Shuffle memory address (18 MHz, 18 bit)
9	A8	In	
10	NC	-	Not used
11	GND	-	Ground
12	GND	-	
13	NC	-	Not used
14	VCC1	-	Power supply (+3 V)
15	VCC1	-	
16	NC	-	Not used
17	VCC1	-	-
18	CE	In	Shuffle memory chip enable
19	NC	-	Not used
20	RFSH	-	-
21	SOC	In	Clock input (18 MHz) from CLK OSC IC
22	NC	-	Not used
23	RS	In	Shuffle memory read strobe
24	DOCTL	In	Shuffle memory data output control
25	OE	-	Low fixed
26	NC	-	Not used
27	NC	-	Not used
28	GND	-	Ground
29	DIOS	In	Shuffle memory data I/O select
30	DOI4	In/Out	Shuffle memory data (8 bit)
31	NC	-	Not used
32	DOI3	In/Out	Shuffle memory data (8 bit)
33	DOI2	In/Out	
34	NC	-	Not used
35	DOI1	In/Out	Shuffle memory data (8 bit)
36	VCC2	-	Power supply (+3 V)
37	VCC2	-	
38	NC	-	Not used
39	GND	-	Ground
40	GND	-	
41	DIO4	In/Out	Shuffle memory data (8 bit)
42	NC	-	Not used
43	DIO3	In/Out	Shuffle memory data (8 bit)
44	DIO2	In/Out	
45	NC	-	Not used
46	DIO1	In/Out	Shuffle memory data (8 bit)
47	TDO	-	-
48	TRS	-	-
49	NC	-	Not used
50	NC	-	Not used

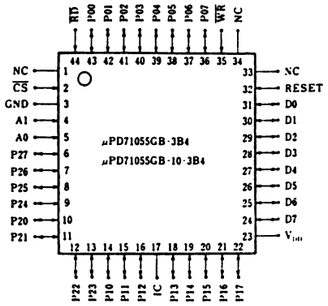
Pin No.	Label	In/Out	Description
51	TDI	-	-
52	TMS	-	-
53	TCK	-	-
54	NC	-	Not used
55	CS	-	High fixed
56	WE	In	Write enable from SHUFFLE IC
57	NC	-	Not used
58	SIC	In	Clock input (18 MHz)
59	WS	In	Shuffle memory control write strobe
60	NC	-	Not used
61	GND	-	Ground
62	GND	-	
63	NC	-	Not used
64	VCC1	-	Power supply (+3 V)
65	VCC1	-	
66	NC	-	Not used
67	A9	In	Shuffle memory address (18 MHz, 18 bit)
68	A10	In	
69	NC	-	Not used
70	A11	In	Shuffle memory address (18 MHz, 18 bit)
71	A12	In	
72	NC	-	Not used
73	A13	In	Shuffle memory address (18 MHz, 18 bit)
74	A14	In	
75	A15	In	
76	NC	-	Not used
77	NC	-	Not used
78	A16	In	Shuffle memory address (18 MHz, 18 bit)
79	A17	In	
80	DIO5	In/Out	Shuffle memory data (8 bit)
81	NC	-	Not used
82	DIO6	In/Out	Shuffle memory data (8 bit)
83	DIO7	In/Out	
84	NC	-	Not used
85	DIO8	In/Out	Shuffle memory data (8 bit)
86	VCC2	-	Power supply (+3 V)
87	VCC2	-	
88	NC	-	Not used
89	GND	-	Ground
90	GND	-	
91	DOI5	In/Out	Shuffle memory data (8 bit)
92	NC	-	Not used
93	DOI6	In/Out	Shuffle memory data (8 bit)
94	DOI7	In/Out	
95	NC	-	Not used
96	DOI8	In/Out	Shuffle memory data (8 bit)
97	A0	In	Shuffle memory address (18 MHz, 18 bit)
98	A1	In	-
99	NC	-	Not used
100	NC	-	Not used

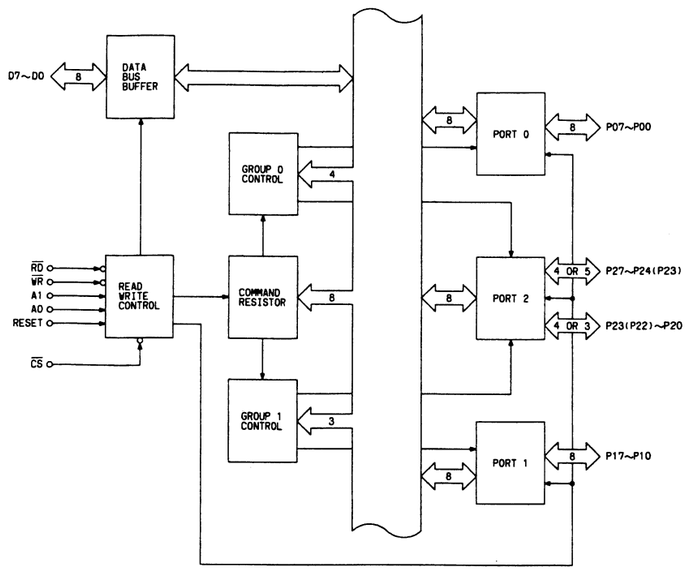
■ UPD42S4260ALG5 【NEC】
(3.3V 4M Bit Dynamic RAM)



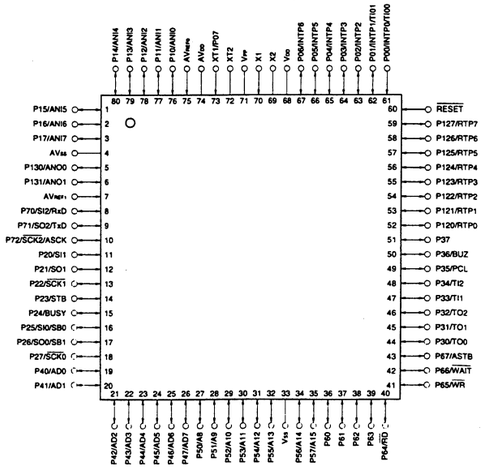


■ UPD71055GB-10 【NEC】
(Parallel Input/Output Port)

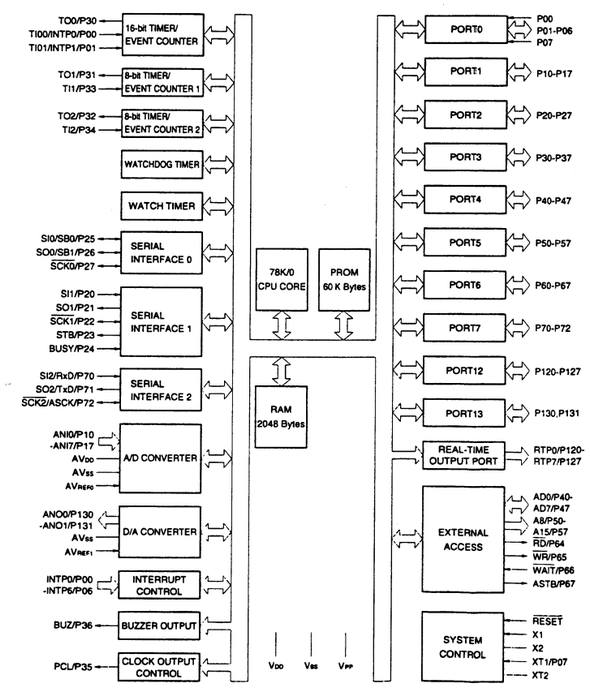




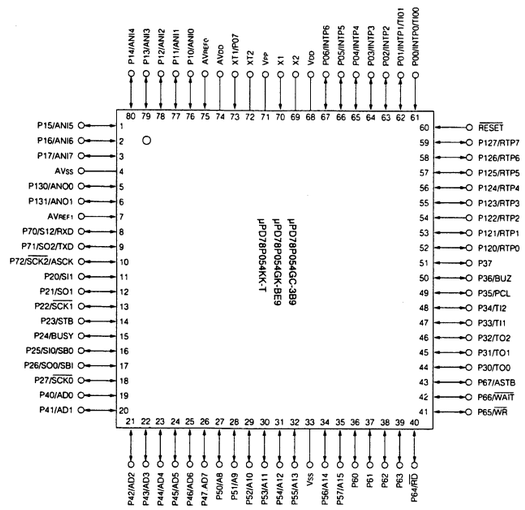
■ UPD78P58YGC-3B9 【NEC】
(8 Bit Single Chip Microcomputer with 60k Bite One Time P-ROM)



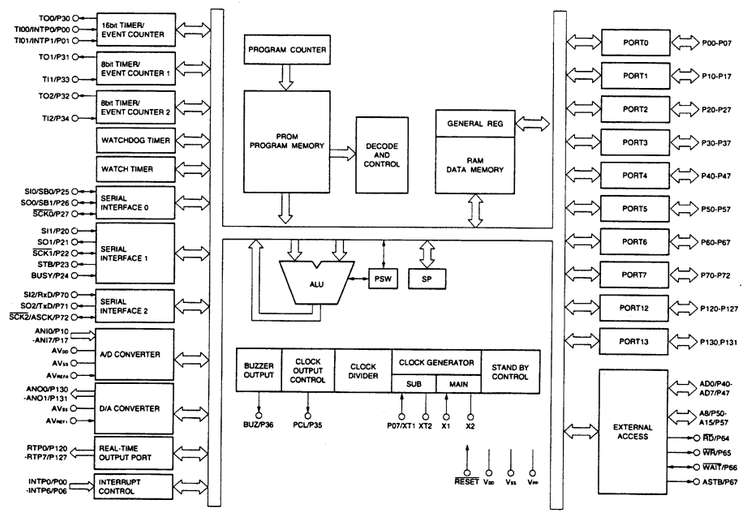
P00-P07	: Port0	SB0, SB1	: Serial Bus	WAIT	: Wait
P10-P17	: Port1	SI0-SI2	: Serial Input	ASTB	: Address Strobe
P20-P27	: Port2	SO0-SO2	: Serial Output	X1, X2	: Crystal (Main System Clock)
P30-P37	: Port3	SCK0-SCK2	: Serial Clock	XT1, XT2	: Crystal (Subsystem Clock)
P40-P47	: Port4	RxD	: Receive Data	RESET	: Reset
P50-P57	: Port5	TxD	: Transmit Data	ANI0-ANI7	: Analog Input
P60-P67	: Port6	ASCK	: Asynchronous Serial Clock	ANO0, ANO1	: Analog Output
P70-P72	: Port7	PCL	: Programmable Clock	AVDD	: Analog Power Supply
P120-P127	: Port12	BUZ	: Buzzer Clock	AVSS	: Analog Ground
P130, P131	: Port13	STB	: Strobe	AVREF0, 1	: Analog Reference Voltage
RTP0-RTP7	: Real-Time Output Port	BUSY	: Busy	VDD	: Power Supply
INTP0-INTP6	: Interrupt from Peripherals	AD0 AD7	: Address/Data Bus	VPP	: Programming Power Supply
TI00, TI01	: Timer Input	A8-A15	: Address Bus	VSS	: Ground
TI1, TI2	: Timer Input	RD	: Read Strobe		
TO0-TO2	: Timer Output	WR	: Write Strobe		



■ UPD78P054GC-3B9 【NEC】
(8 Bit Single Chip Microcomputer with 32k Bite One Time P-ROM)



P00-P07	: Port0	SB0, SB1	: Serial Bus	WAIT	: Wait
P10-P17	: Port1	SI0-SI2	: Serial Input	ASTB	: Address Strobe
P20-P27	: Port2	SO0-SO2	: Serial Output	X1, X2	: Crystal (Main System Clock)
P30-P37	: Port3	SCK0-SCK2	: Serial Clock	XT1, XT2	: Crystal (Subsystem Clock)
P40-P47	: Port4	RxD	: Receive Data	RESET	: Reset
P50-P57	: Port5	TxD	: Transmit Data	ANI0-ANI7	: Analog Input
P60-P67	: Port6	ASCK	: Asynchronous Serial Clock	ANO0, ANO1	: Analog Output
P70-P72	: Port7	PCL	: Programmable Clock	AVDD	: Analog Power Supply
P120-P127	: Port12	BUZ	: Buzzer Clock	AVSS	: Analog Ground
P130, P131	: Port13	STB	: Strobe	AVREF0, 1	: Analog Reference Voltage
RTP0-RTP7	: Real-Time Output Port	BUSY	: Busy	VDD	: Power Supply
INTP0-INTP6	: Interrupt From Peripherals	AD0-AD7	: Address/Data Bus	VPP	: Programming Power Supply
TI00, TI01	: Timer Input	A8-A15	: Address Bus	VSS	: Ground
TI1, TI2	: Timer Input	RD	: Read Strobe		
TO0-TO2	: Timer Output	WR	: Write Strobe		



SECTION 5
EXPLODED VIEW AND ASSEMBLY LIST

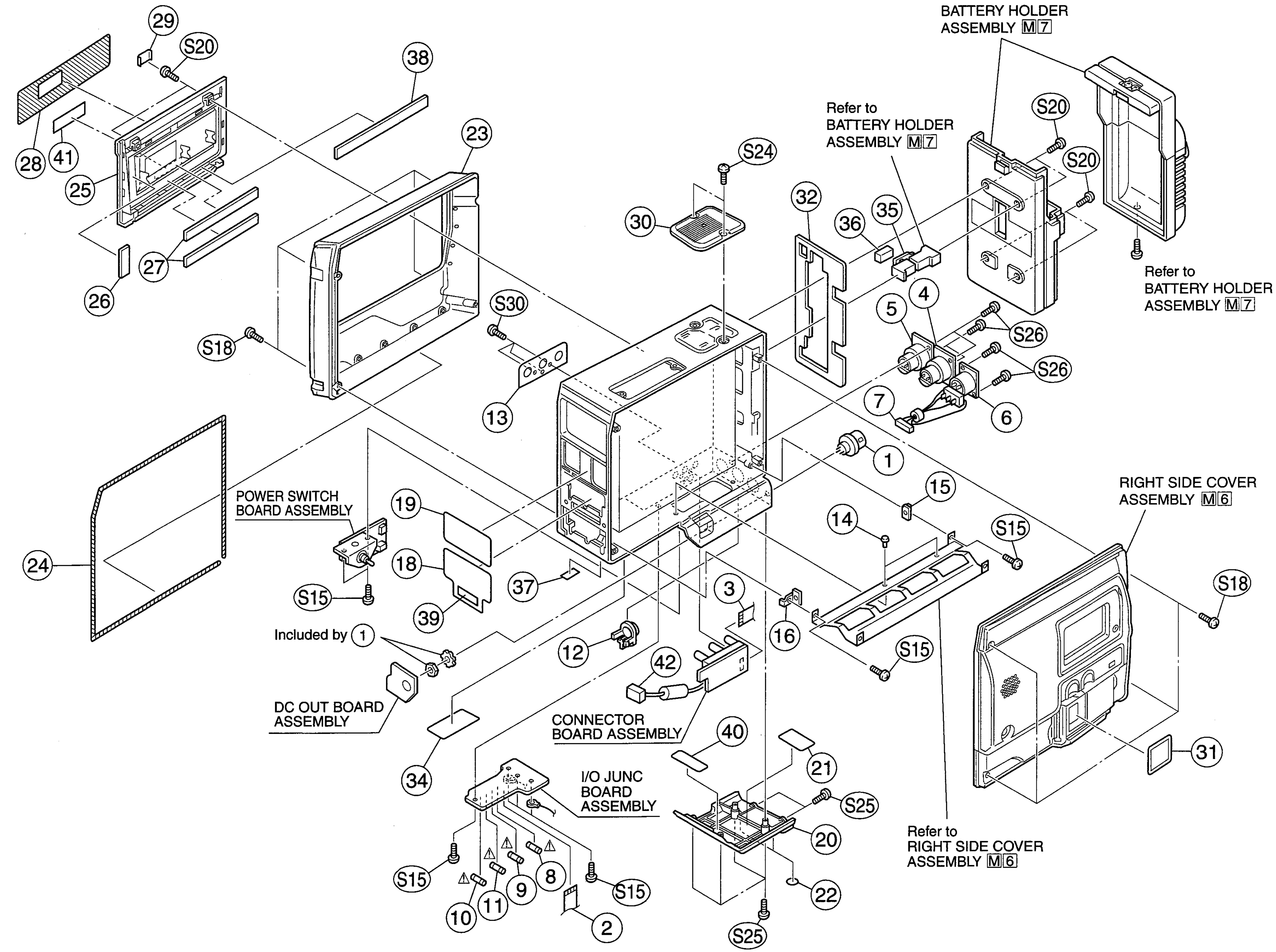
● **SAFETY PRECATION**
Parts identified by the ⚠ symbol are critical for safety.
Replace only with specified parts numbers.

● **NOTE**
Parts not denoted by parts numbers are not supplied by JVC.

5.1 CABINET ASSEMBLY PARTS LIST M2

M2MM□□□□

Symbol No.	Part No.	Part Name	Description
1	SCV1836-S04	CONNECTOR	
2	PGW0203-280100	FFC	AU7-IO/J5
3	PGW0204-260080	FFC	AU5-CNT1
4	PGZ01953	XLR CONNECTOR	
5	PGZ01953	XLR CONNECTOR	
6	PGZ02527	DC IN CONN(4P)	
7	MLSL076A	DC IN WIRE	
⚠ 8	QMF51U1-4R0	FUSE	(U) 4 A, 125 V F301
⚠	QMF51A2-4R0	FUSE	(E) 4 A, 250 V F301
⚠ 9	QMF51U1-2R5	FUSE	(U) 2.5 A, 125 V F302
⚠	QMF51A2-2R5	FUSE	(E) 2.5 A, 250 V F302
⚠ 10	QMF51U1-2R0	FUSE	(U) 2.0 A, 125 V F303
⚠	QMF51A2-2R0	FUSE	(E) 2.0 A, 250 V F303
⚠ 11	QMF51U1-R40	FUSE	(U) 400 mA, 125 V F304
⚠	QMF51A2-R40	FUSE	(E) 400 mA, 250 V F304
12	PRD44883	LENS	
13	PRD44879-01-02	PLATE (CONN)	
14	PU53276	PLASTIC RIVET	
15	PRD44896	STAY(1)	
16	PRD44897	STAY(2)	
18	PRD44899	PLATE(2)	
19	PRD44898	PLATE(1)	
20	PRD10357-01-04	BOTTOM COVER	
21	PRD44994	CAUTION LABEL 1	(U)
	PRD44994-02	CAUTION LABEL 1	(E)
22	PRD30090	FOOT	
23	PRD10353	SIDE COVER(L)	
24	PRD44992	SHIELD TUBE	
25	PRD10356-01-02	CASSETTE PANEL	
26	PRD30030-156	PAD	
27	PRD30030-157	PAD	
28	PRD30896-09	WINDOW	(E)
	PRD30896-07	WINDOW	(U)
29	PRD44259	CAP	
30	PRD31276-01-02	COVER (TOP)	
31	PRD44880	PLATE(DOOR)	
32	PRD44882	PAD(REAR)	
34	-	RATING LABEL	
35	MLSL051A-5	BATTERY CABLE 1	
36	MLSL051A-4	BATTERY CABLE 2	
37	PRD43307-02	STICKER	
38	PRD45091	SHEET	
39	PU49729-2	LABEL 1	(U)
40	PU58760	CAUTION LABEL 2	(U)
41	PRD45092-02	LABEL 2	
42	MLSL051A-1	WIRE ASSEMBLY	With Ferrite core
S15	SDSP2605Z	SCREW	M2.6x5
S18	SC43397-010	SCREW	
S20	SDSP3008M	SCREW	M3x8
S24	SDSP4006M	SCREW	M4x6
S25	SDSP2608M	SCREW	M2.6x8
S26	SPSP2606N	SCREW	M2.6x6
S30	SDSF3008M	SCREW	M3x8


BATTERY HOLDER ASSEMBLY M7
Refer to BATTERY HOLDER ASSEMBLY M7
Refer to BATTERY HOLDER ASSEMBLY M7
RIGHT SIDE COVER ASSEMBLY M6
Refer to RIGHT SIDE COVER ASSEMBLY M6
POWER SWITCH BOARD ASSEMBLY
Included by 1
DC OUT BOARD ASSEMBLY
CONNECTOR BOARD ASSEMBLY
I/O JUNC BOARD ASSEMBLY
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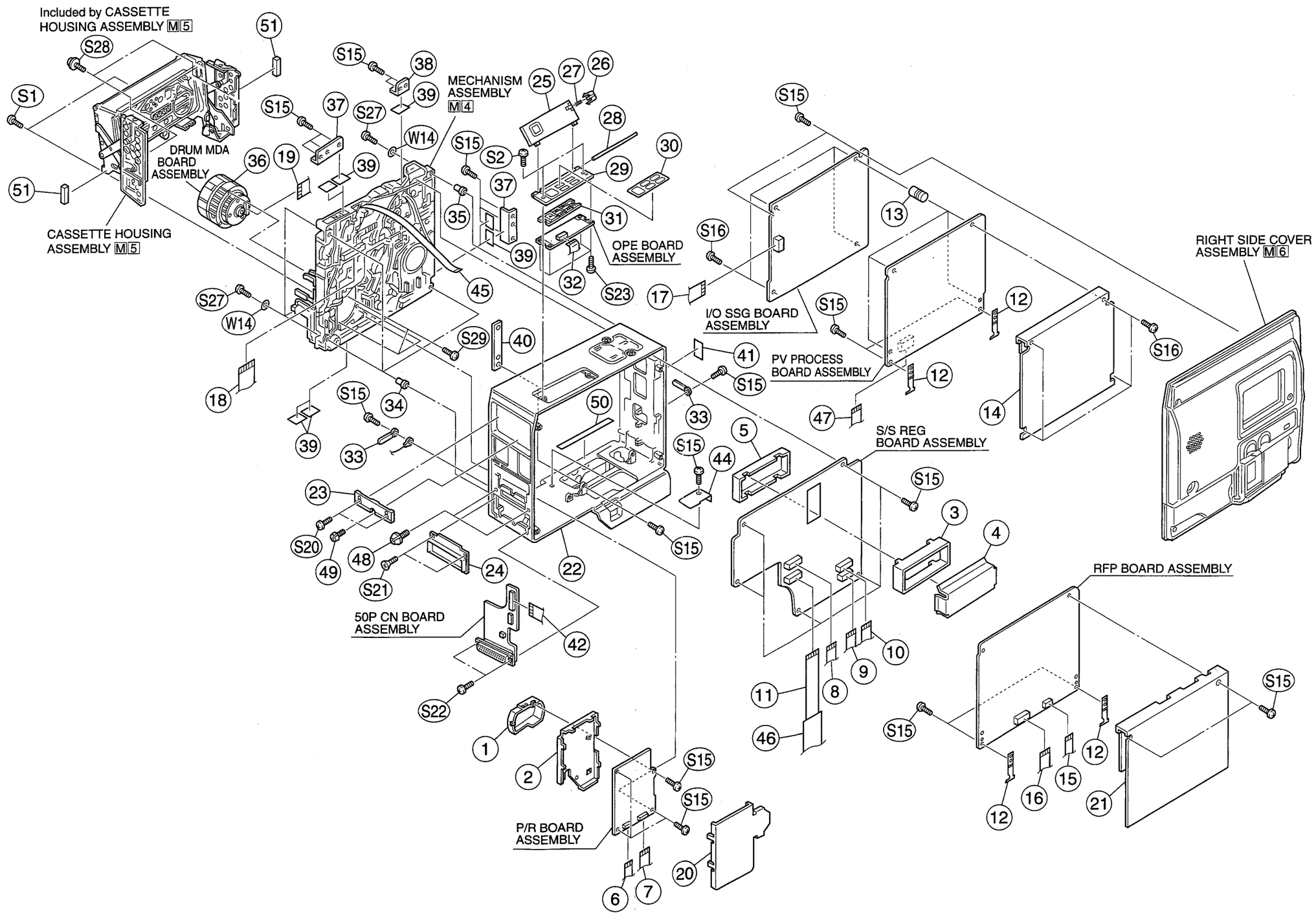
5.2 CHASSIS ASSEMBLY PARTS LIST M 3

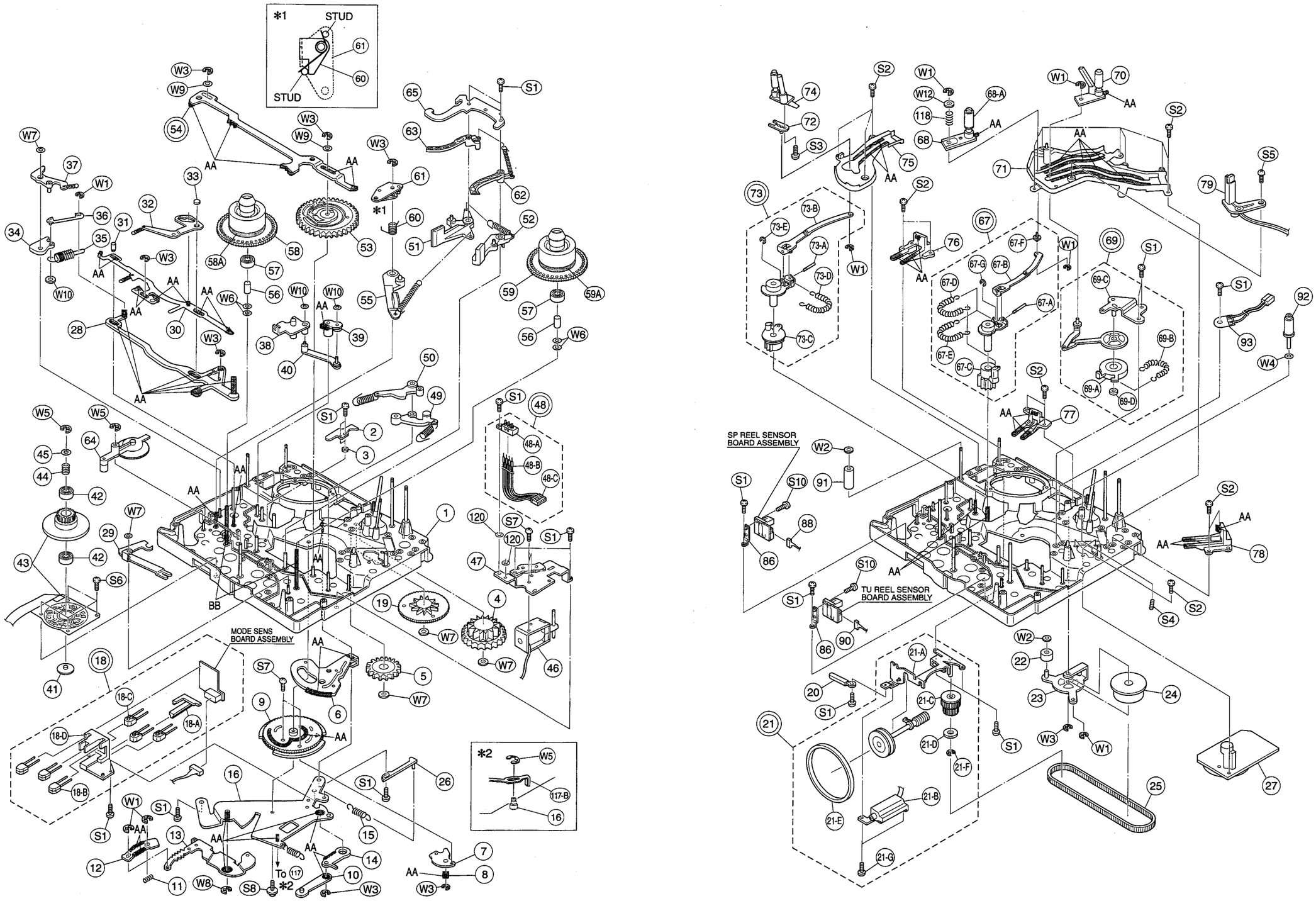


5-4

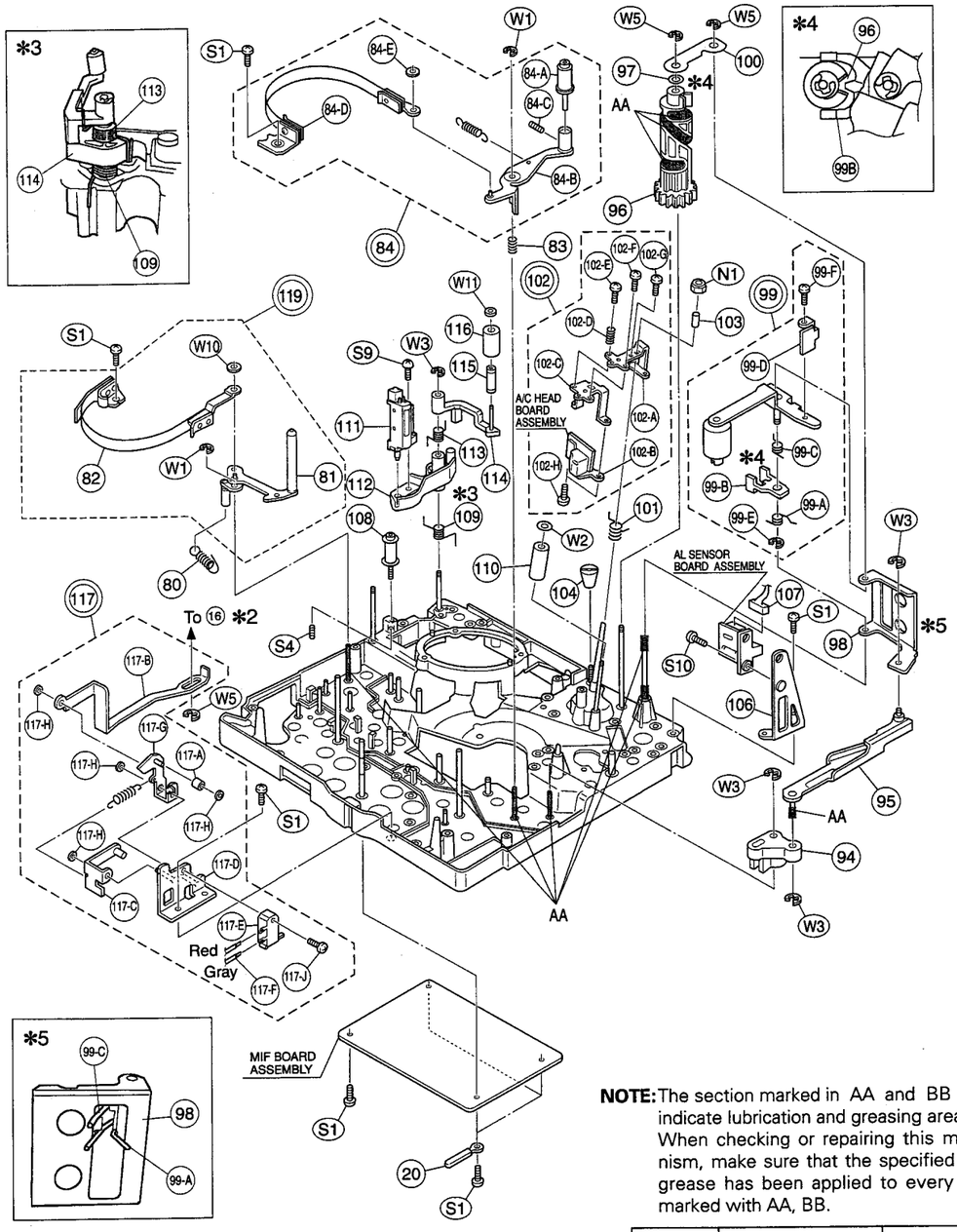
M3MM□□□□

Symbol No.	Part No.	Part Name	Description
1	PRD31279	DRUM SHIELD	
2	PRD31280	P/R SHIELD(A)	
3	PRD44902	SHIELD CASE	
4	PRD44903	SHIELD COVER	
5	PRD44904-01-01	SHIELD PLATE	
6	PGW0204-070110	FFC	RF101-P/R1
7	QUQ0208-2810CE	FFC	P/R6-PV6
8	PGW0206-160220	FFC	PV10-S/S4
9	PGW0206-120240	FFC	PV2-S/S11
10	QUQ0208-3007CE	FFC	RF604-S/S12
11	QUQ0208-3024CE	FFC	AU8-S/S13
12	PRD44893	BOARD HOLDER	
13	PRD42566-03	DODGE BET	
14	PRD31236	SHIELD PLATE(2)	
15	PGW0204-100080	FFC	RF603-I/SSG3
16	PGW0204-100220	FFC	RF501-PV4
17	PGW0203-050200	FFC	I/SSG-PV1
18	QUQ0208-3012CE	FFC	M. IF-S/S1
19	PGW0206-050170	FFC	P/R2-DRUM
20	PRD31281	P/R SHIELD(B)	
21	PRD31235	SHIELD PLATE(1)	
22	PRD10352-01-02	MAIN FRAME	
23	SC30988-003	CAMERA GUIDE	
24	PRD31273-01-02	COVER(50PIN)	
25	PRD31229-01-03	DOOR(OPE)	
26	PRD43840-01-04	KNOB(DOOR)	
27	PRD30023-53	COMPRESS SPRING	
28	PRD43829-03	SHAFT	
29	PRD31228-01-02	HOLDER	
30	PRD44890-01-01	PLATE(OPE)	
31	PRD31233	KNOB(OPE)	
32	PGW0203-140100	FFC	OPE-S/S3
33	PU49485-3	WIRE CLAMP	
34	PRD44884	COLLAR(1)	
35	PRD44885-01-02	COLLAR(2)	
36	PDR2012A	DRUM ASSEMBLY	
37	PRD44983-01-02	BRACKET(1)	
38	PRD44984-01-02	BRACKET(2)	
39	PRD30030-159	PAD	
40	PRD44901	STAY(BOARD)	
41	PRD44925	LABEL	
42	PGW0206-170200	FFC	RF605-50P201
44	PRD45083	WIRE CLAMP	
45	PGW0206-120100	FFC	DRUM MDA-S/S9
46	PRD45040	INSULATOR	
47	PGW0204-060150	FFC	AU4-PV12
48	PRD44894	STUD(A)	
49	PRD44895	STUD(B)	
50	PRD30030-163	PAD	
51	PRD30030-162	PAD	
S1	SDSP2004Z	SCREW	M2x4
S2	SDSP2006M	SCREW	M2x6
S15	SDSP2605Z	SCREW	M2.6x5
S16	SDSP3004Z	SCREW	M3x4
S20	SDSP3008M	SCREW	M3x8
S21	SSSP2004M	SCREW	M2x4
S22	LPSP2006Z	SCREW	M2x6
S23	SDSF2004Z	SCREW	M2x4
S27	SDSP2612Z	SCREW	M2.6x12
S28	DPSP2005Z	SCREW	M2x5 Included by CASSETTE HOUSING ASSEMBLY
S29	SDSP2606Z	SCREW	M2.6x6
W14	PRD30029-10	WASHER	

5.3 MECHANISM ASSEMBLY PARTS LIST M4



5-6



NOTE: The section marked in AA and BB indicate lubrication and greasing areas. When checking or repairing this mechanism, make sure that the specified oil or grease has been applied to every point marked with AA, BB.

Category	JVC part number	MARK
Grease	MOS2-C	AA
Oil	COSMO-HV56	BB

Symbol No.	Part No.	Part Name	Description
	PGS30280A	MECHANISM ASSEMBLY	
1	-	MAIN DECK	
2	PRD44995	A.G.PLATE	
3	PRD44141	SPACER	
4	PRD44573	P.I.GEAR	
5	PRD44574	C.I.GEAR	
6	PRD44578A	A.GEAR(R) ASSEMBLY	
7	PRD44862A	PIN PLATE ASSEMBLY	
8	PRD44865	ROLLER	
9	PRD20538	CONTROL CAM	
10	PRD44713A	S.ROD ASSEMBLY	
11	PRD30023-56	COMPRESS.SPRING 56	
12	PRD31117-01-02	SLIDE GEAR	
13	PRD44582A-02	A.GEAR(L) ASSEMBLY	
14	PRD44796A-01	P.C.ARM ASSEMBLY	
15	PRD44838	TENSION SPRING 838	
16	PRD44958A	CAM BKT.ASSEMBLY	
18	PGS30258A	M.SENSOR ASSEMBLY	
18A	PRD31207	MODE SENSOR(2)	
18B	TLN117	PHOTO LED	
18C	TPS622	PH.TRANSISTOR	
18D	PRD20539	MODE SENSOR(1)	
19	PRD44572	CONNECT GEAR	
20	PU49485-3	WIRE CLAMP	
X 21	PGZ02533	L.MOTOR ASSEMBLY	
21A	PRD44560A-01	GEAR BKT. ASSEMBLY	
21B	JV-1850	LOADING MOTOR	
21C	PRD44566	WORM WHEEL	
21D	PQM30018-54	SPACER	
21E	PRD30022-21	BELT	
21F	REE2000	E.WASHER	
21G	LPSP2003Z	SCREW	M2x3
22	PRD44571	BAND ROLLER	
23	PRD44568A	B.R.ARM ASSEMBLY	
24	PRD44567	TIMING GEAR	
X 25	PGZ02193	TIMING BELT	
26	PRD44839A	ADJ.LEVER ASSEMBLY	
X 27	PGZ02191	CAPSTAN MOTOR	
28	PRD44597A-01	S.PLATE ASSEMBLY	
29	PRD31124	SOLENOID LEVER	
30	PRD44955A-01	BRAKE PLATE	
31	PRD44832	COLLAR 1	
32	PRD44956A	B.ANGLE ASSEMBLY	
33	PRD44833	COLLAR 2	
34	PRD44616	S.ADD LEVER	
35	PRD44847-01-01	TENSION SPRING 847	
36	PRD44815A-01	T.ROD ASSEMBLY	
37	PRD44961A	S.B.LEVER ASSEMBLY	
38	PRD44618A-01	SUB ARM SA	
39	PRD31128	GENEVA GEAR	
40	PRD44627A	PUSH ARM ASSEMBLY	
41	PRD44764	COLLAR	
42	PRD30021-14	BALL BEARING	
43	PGZ02192	REEL MOTOR	
44	PRD30023-57	COMPRESS.SPRING 57	
45	Q03093-831	WASHER	
46	PGZ02194	SOLENOID	
47	PRD31125	SOLENOID BKT.	
48	PGS30299A	W SENSOR ASSEMBLY	
48A	PGZ02453	W SENSOR	
48B	QXTE154-010	TUBE	
48C	MLSL066A	CAS.SW WIRE	
49	PRD44959A	T.S.L.SP.ASSEMBLY	
50	PRD44953A	T.B.LEVER ASSEMBLY	
51	PRD45006A	L.C.L.F.ASSEMBLY	

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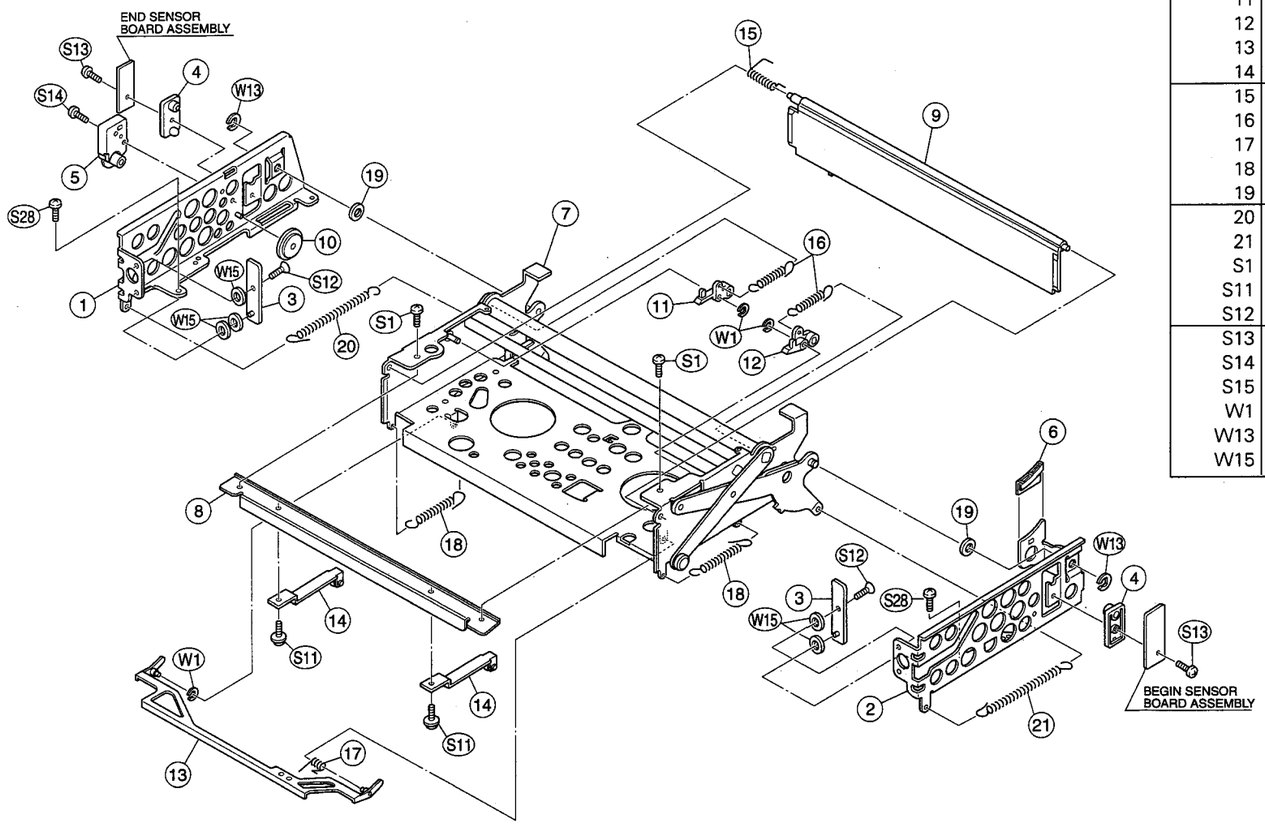
Symbol No.	Part No.	Part Name	Description
52	PRD45007A	R.C.L.F.ASSEMBLY	
53	PRD20540	2ND CAM	
54	PRD44614A-01	DIR.PLATE ASSEMBLY	
55	PRD44835A-01	SUB BRAKE ASSEMBLY	
56	PRD44786	COLLAR	
57	PRD30021-13	BALL BEARING	
58	PRD44518A	REEL DISK ASSEMBLY	
58A	PRD44711	RUBBER TIRE	
59	PRD44518B	REEL DISK ASSEMBLY	
59A	PRD44711	RUBBER TIRE	
60	PRD44834	TORSION SPRING	
61	PRD44635A	B.H.BKT. ASSEMBLY	
62	PRD44954A-01	T.B.A.SP.ASSEMBLY	
63	PRD31131A-02	S.B.ARM ASSEMBLY	
64	PGS30248A	IDLER ASSEMBLY	
65	PRD31133-01-01	ARM GUIDE	
X 67	PGS30251A	L.ARM(R) ASSEMBLY	
67A	PRD44537	L.ARM SHAFT	
67B	PRD44545A	ARM(R) ASSEMBLY	
67C	PRD31109	L.GEAR(R)	
67D	PRD44542-02	TENSION SPRING 422	
67E	PRD44542-03	TENSION SPRING 423	
67F	PRD44550	BOTTOM STUD	
67G	REE1200	E.WASHER	
X 68	PRD31173B - 04	POLE BASE ASSEMBLY	
68A	PRD44966A	GUIDE ROLLER	
69	PGS30252A	ARM(D) ASSEMBLY	
69A	PRD44558	LOADING GEAR(D)	
69B	PRD30024-74	TENSION SPRING 74	
69C	PRD44471A-01	ARM(D) BRACKET	
69D	PQM30017-5	WASHER	
70	PRD31174A	POLE BASE ASSEMBLY	
71	PRD10342-01-01	GUIDE RAIL(T)	
72	PRD44477A	BASE ASSEMBLY	
X 73	PGS30250A	L.ARM(L) ASSEMBLY	
73A	PRD44537	L.ARM SHAFT	
73B	PRD44538A	ARM(L) ASSEMBLY	
73C	PRD31108A	L.GEAR(L) ASSEMBLY	
73D	PRD44542	TENSION SPRING 420	
73E	REE1200	E.WASHER	
74	PRD31172A-02	POLE BASE ASSEMBLY	
75	PRD10341-01-01	GUIDE RAIL(S)	
76	PRD31093	CATCHER(S)	
77	PRD31094	CATCHER(T)	
78	PRD31095	CATCHER(D)	
X 79	PGS30245A	CASS.LED ASSEMBLY	
81	PRD45022A-01	S.T.ARM ASSEMBLY	
X 82	PRD44722A-01	TENSION BAND(S)	
83	PRD30023-59	COMP. SPRING 59	
X 84	PGS30257A	T.T.ARM ASSEMBLY	
84A	PRD43631A	GUIDE R.ASSEMBLY	
84B	PRD44952A	T.T.ARM ASSEMBLY	
84C	YFS2605B	SCREW	M2.6x5
X 84D	PRD44726A	TENSION BAND(T)	
84E	PQM30017	SLIT WASHER	
86	PRD44521	R.SENSOR.BKT.	
91	PRD44505	GUIDE ROLLER	
92	PRD44403B	GUIDE ROLLER	
93	QSD0002-001	DEW SENSOR	
94	PRD44600	JOINT ARM	
95	PRD44603A-01	PINCH ROD ASSEMBLY	
96	PRD20537	CAM GEAR	
97	Q03093-826	WASHER	
98	PRD31221-01-01	P.LOCK LEVER	
99	PGS30255A	P.ROLLER ASSEMBLY	

Symbol No.	Part No.	Part Name	Description
99A	PRD45001	TORSION SPRING 451	
99B	PRD31148	ARM LIFTER	
99C	PRD45000	TORSION SPRING 450	
99D	PRD44744-01-01	SENSOR PLATE	
99E	REE4000	E.WASHER	
99F	SDSP2004Z	SCREW	M2x4
100	PRD44729	PLATE	
101	PRD44501-01-01	TORSION SPRING 501	
102	PGS30247A	A/C HEAD ASSEMBLY	
102A	PRD31101	A/C HEAD ARM	
102B	PGZ02190	A/C HEAD	
102C	PRD44502A-02	HEAD BASE ASSEMBLY	
102D	PQM30002-197	COMPRESS.SPRING 197	
102E	SDSP2612Z	SCREW	M2.6x12
102F	PQ43687B	SCREW	M2.6x8
102G	PQ44621	SCREW	M2.6x8
102H	SDSP2604Z	SCREW	M2.6x4
103	PRD30026-38	COLLAR	
104	PRD44241	TAPER NUT	
106	PRD31156	SENSOR BRACKET	
108	PRD44926A	G.ROLLER ASSEMBLY	
109	PRD44498-01-01	TORSION SPRING 498	
110	PRD44505	GUIDE ROLLER	
111	PRD44399A	FULL ERASE HEAD	
112	PRD31099A-01	E.HEAD ARM ASSEMBLY	
113	PRD44790-01-01	TORSION SPRING 790	
114	PRD44499A	H.C.ARM ASSEMBLY	
115	YQ42418	ROLLER	
116	YQ42419-2	CLEANER	
117	PGS30254A	LOCK UNIT ASSEMBLY	
117A	PRD44590	ROLLER	
117B	PRD44586-01-01	EJECT ROD	
117C	PRD44591A-02	L.LEVER ASSEMBLY	
117D	PRD44594A	L.BKT. ASSEMBLY	
117E	PGZ00503	INSERT SWITCH	
117F	MLSL044A-01	CAS.LOCK WIRE	
117G	PRD45005A	NOSE F.ASSEMBLY	
117H	PQM30017-25	SLIT WASHER	
117J	SDSP2006M	SCREW	M2x6
118	PRD30024-42	COMPRESSION SPRING 42	
119	PGS30256A	TENSION ARM ASSEMBLY(S)	
120	PRD44141	SPACER	
N1	PQ40353	NUT	
S1	SDSP2004Z	SCREW	M2x4
S2	SDSP2006M	SCREW	M2x6
S3	SPSH1740M	SCREW	M1.7x4
S4	YFS2603B	SCREW	M2.6x3
S5	SBSF2606Z	SCREW	M2.6x6
S6	SPSP2004Z	SCREW	M2x4
S7	LPSP2003Z	SCREW	M2x3
S8	DPSP2006Z	SCREW	M2x6
S9	SBSF2610Z	SCREW	M2.6x10
S10	LPSP3006Z	SCREW	M3x6
W1	REE1500	E.WASHER	
W2	PQM30017-25	SLIT WASHER	
W3	REE2000	E.WASHER	
W4	PRD43925	RING	
W5	REE2500	E.WASHER	
W6	PQM30018-33	WASHER	
W7	PQM30017-22	SLIT WASHER	
W8	REE4000	E.WASHER	
W9	Q03093-827	WASHER	
W10	PQM30017	SLIT WASHER	
W11	YQM30017-8	SLIT WASHER	
W12	Q03093-838	WASHER	

5-8

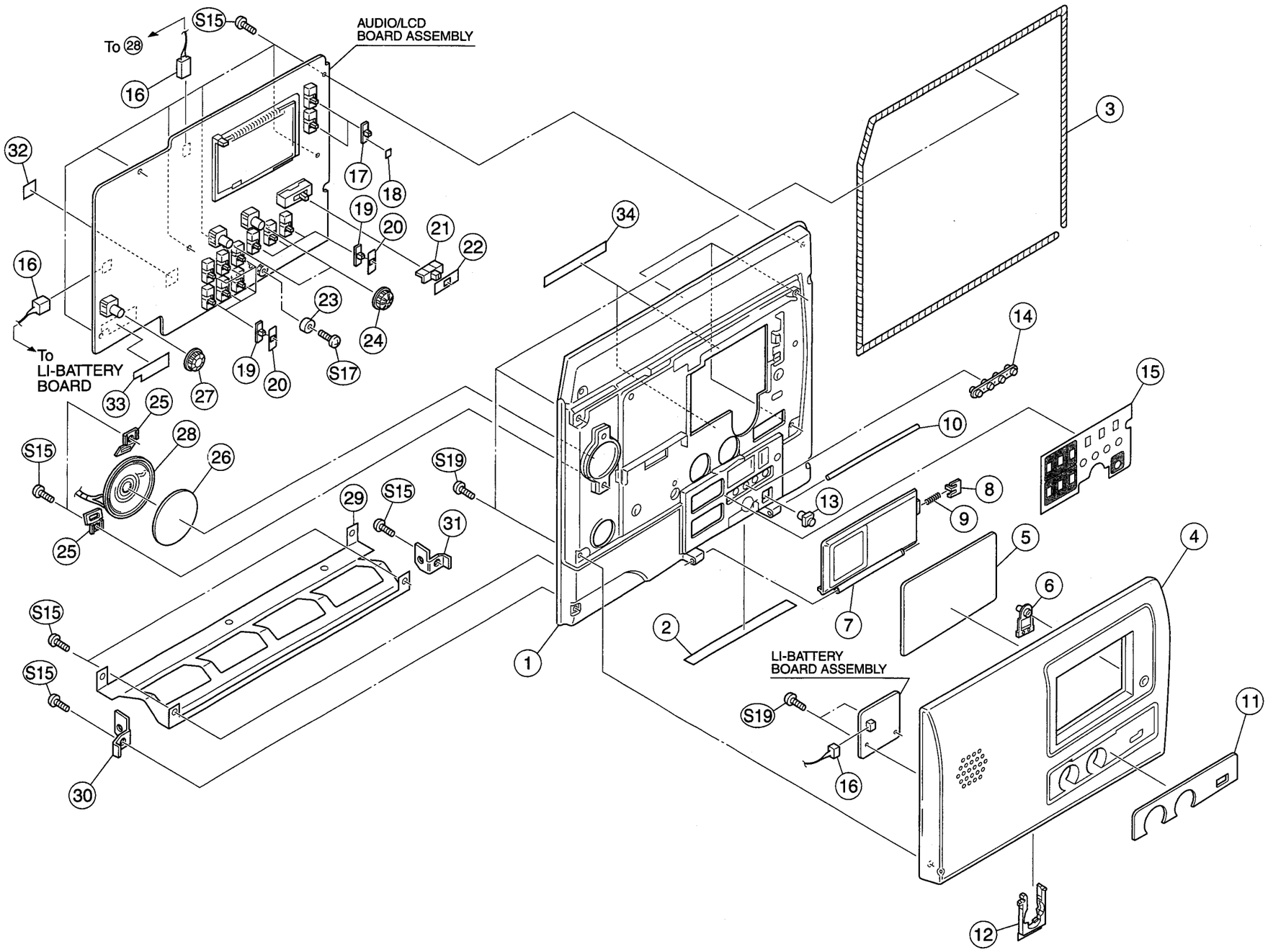
5.4 CASSETTE HOUSING ASSEMBLY PARTS LIST M5

M5MM□□□□



Symbol No.	Part No.	Part Name	Description
	PGS30329A-04	CASS.HOUSING ASSEMBLY	
1	PRD44690A	BKT.(L) ASSEMBLY	
2	PRD44695A	BKT.(R) ASSEMBLY	
3	PRD44694	CASSETTE GUIDE	
4	PRD44704	SENSOR BRACKET	
5	PU56781	DUMPER	
6	PQ42384-1-3	LID GUIDE	
7	PRD31135A-01	C.HOUSING SUB ASSEMBLY	
8	PRD31274	TOP PLATE	
X 9	PRD31138	DOOR	
10	PRD44696	DAMPER GEAR	
11	PRD44697	HOLD LEVER(L)	
12	PRD44698	HOLD LEVER(R)	
13	PRD31139A	L.LEVER ASSEMBLY	
14	PRD44986A	S.PLATE ASSEMBLY	
15	PRD44699-01-02	TORSION SPRING 699	
16	PRD30024-70-12	TENSION SPRING 70	
17	PRD44702	TORSION SPRING 702	
18	PRD30024-71	TENSION SPRING 71	
19	Q03093-817	WASHER	
20	PRD30024-72	TENSION SPRING 72	
21	PRD30024-95	TENSION SPRING 95	
S1	SDSP2004Z	SCREW	M2x4
S11	DPSP2004Z	SCREW	M2x4
S12	SSSP2004M	SCREW	M2x4
S13	SDSP2008Z	SCREW	M2x8
S14	SDSP2006Z	SCREW	M2x6
S15	DPSP2005Z	SCREW	M2x5
W1	REE1500	E.WASHER	
W13	REE3000	E.WASHER	
W15	Q03093-829	SPACER	

5.5 RIGHT SIDE COVER ASSEMBLY PARTS LIST M6



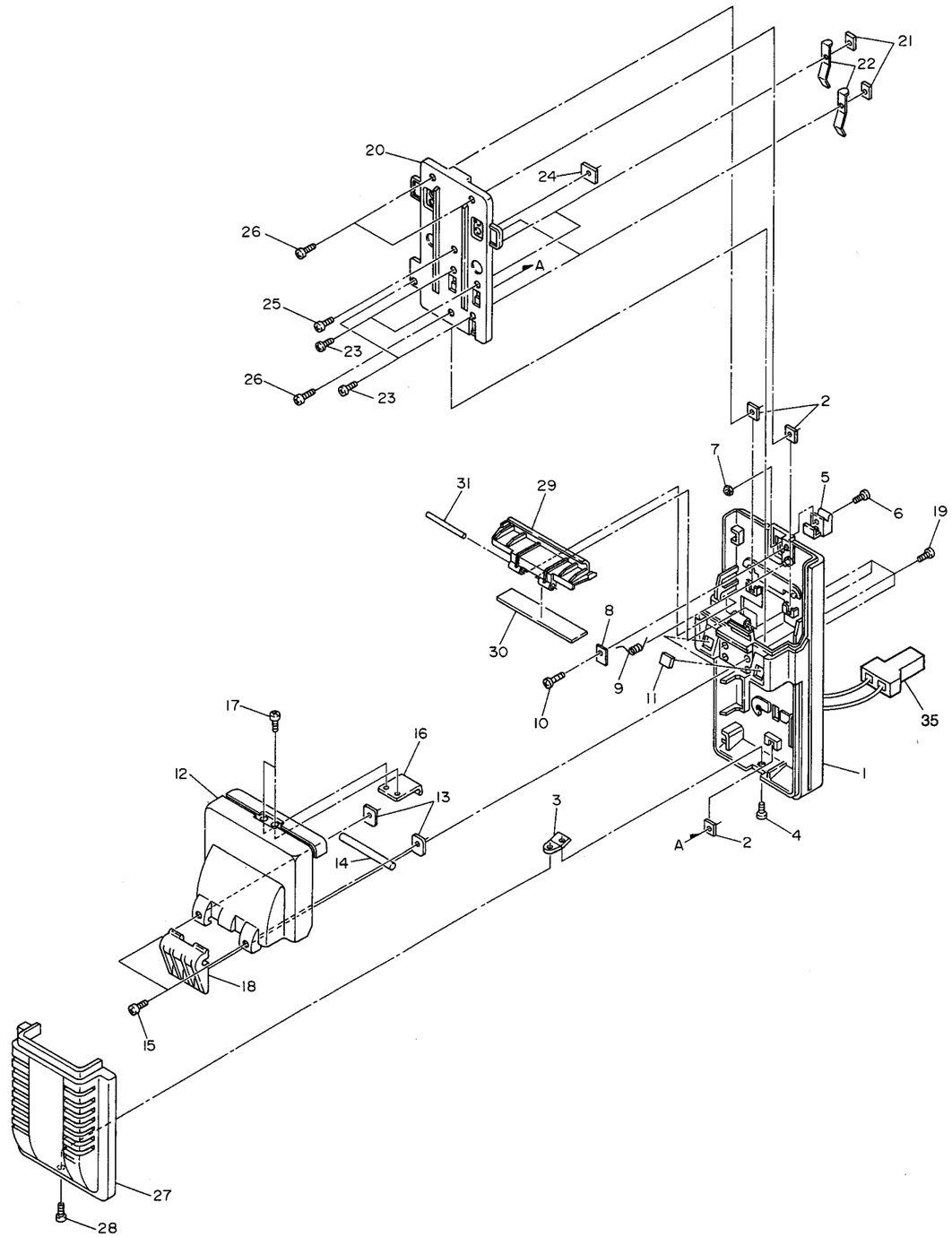
M6MM□□□□

Symbol No.	Part No.	Part Name	Description
1	PRD10354-01-02	SIDE COVER	
2	PRD30030-155	PAD	
3	PRD44992	SHIELD TUBE	
4	PRD10355-01-03	CHEEK PAD	
5	PRD44877	PLATE(LCD)	
6	PRD44874	KNOB(RESET)	
7	PRD31230-01-03	DOOR(A)	
8	PRD43840-01-04	KNOB(DOOR)	
9	PRD30023-53	COMPRESS SPRING	
10	PRD43829-03	SHAFT	
11	PRD44878-01-01	PLATE(AUD)	
12	PRD31245	LI B.HOLDER	
13	PRD44873	KNOB(MENU)	
14	SC44557	CAP	
15	PRD44881-01-04	PLATE(SW)	
16	MLSL047A	R.SIDE WIRE	
17	PRD43835	KNOB(OPE)	
18	PRD42909-04	ADJUST PLATE	
19	PRD44020	KNOB(T/C)	
20	PRD43146-02	KNOB PLATE	
21	PRD42830	SLIDE KNOB	
22	PRD43146	KNOB PLATE	
23	PRD44875-01-02	VOL KNOB(1)	
24	PRD44876-01-02	VOL KNOB(2)	
25	SC44537-001	SP BRACKET	
26	PRD30030-105	PAD	
27	PRD43839-01-03	KNOB(VR)	
28	PGZ01282	SPEAKER	
29	PRD31234	HINGE	
30	PRD44896	STAY(1)	
31	PRD44897	STAY(2)	
32	PRD30030-55	PAD	
33	PRD45046	SHEET	
34	PRD30030-161	PAD	
S15	SDSP2605Z	SCREW	M2.6x5
S17	SPSH1450Z	SCREW	M1.4x50
S19	SDSF2605Z	SCREW	M2.6x5

5-11

5.6 BATTERY HOLDER ASSEMBLY PARTS LIST M7

M7MM□□□□



Symbol No.	Part No.	Part Name	Description
	PGS20993A	BATTERY HOLDER	
1	SC10156-001	B.H. BASE	
2	PRD30955	PLATE(1)	
3	SC45152-001	NUT PLATE	
4	SDSP3004NY	SCREW	M3x4
5	SC43570-001	LOCK KNOB	
6	SDSP2006MY	SCREW	M2x6
7	NNS2000N	NUT	
8	SC43571-001	PLATE	
9	PRD44060	SPRING	
10	SDSF2005MY	SCREW	M2x5
11	SC45155-001	CUSHION	
12	SC20476-002	COVER(1)	
13	PRD30955-02	PLATE(2)	
14	PRD44062	SHAFT	
15	SSSP2606MY	SCREW	M2.6x6
16	PRD30955-05	PLATE(5)	
17	SPSK2650M	SCREW	M2.6x5.0
18	SC31501-002	HOLDER	
19	SDSP2605MY	SCREW	M2.6x5
20	SC20478-004	TERMINAL COVER	
21	PRD30955-03	PLATE(3)	
22	SC45150-001	PLATE	
23	SSSK2040M	SCREW	M2x4.0
24	PRD30955-04	PLATE(4)	
25	SSSK2040M	SCREW	M2x4.0
26	SSSP3005MY	SCREW	M3x5
27	SC20477-002	COVER(2)	
28	SDSP3005M	SCREW	M3x5
29	SC31319-011	GUIDE	
30	SC44869-006	SPRING	
31	PRD44066	SHAFT	
35	ML-G01115A-01	WIRE KIT	

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SECTION 6
ELECTRICAL PARTS LIST

SAFETY PRECAUTION:
Parts identified by the ⚠ symbol are critical for safety. Replace only with specified parts numbers.
For maximum reliability and performance, all other replacement parts should be identical to those specified.

NOTE:
- Parts not denoted by parts numbers are not supplied by JVC.
- Abbreviations in this list are as follows:

RESISTORS
In the "Description" column:
All resistance values are in ohms (W).
K expresses kilo-ohm (1 000 ohms, kW).
M expresses mega-ohm (106 ohms, MW).

In the "Parts Name"column:

COMP. RESISTOR	:	Composition Resistor
U.F. RESISTOR	:	Non-inflammable Resistor
O.M.F. RESISTOR	:	Oxide Metalized Film Resistor
FUSI. RESISTOR	:	Fusible Resistor
M.P. RESISTOR	:	Metal Plate Resistor
M.G. RESISTOR	:	Metal Graze Resistor
M.F. RESISTOR	:	Metal Film Resistor
W.W. RESISTOR	:	Wire Wound Resistor

CAPACITORS
In the "Description" column:
All capacitance values are in microfarad (μF) unless otherwise indicated.
P expresses picofarad (10-12 farad,pF).

In the "Parts Name" column:

TRIM. CAPACITOR	:	Trimmer Capacitor
CER. CAPACITOR	:	Ceramic Capacitor
E. CAPACITOR	:	Electrolytic Capacitor
TAN. CAPACITOR	:	Tantalum Capacitor
MPP CAPACITOR	:	Metalized Polypropylene Capacitor
O.F. CAPACITOR	:	Oil Film Capacitor
MPF CAPACITOR	:	Metalized Polyfilm Capacitor
F.M. CAPACITOR	:	Film Mica Capacitor
P.P. CAPACITOR	:	Polypropylene Capacitor
P.S. CAPACITOR	:	Polystyrene Capacitor
M.F. CAPACITOR	:	Metalized Film Capacitor

Note: In the "Description" column of the parts list, (U) means the parts for the U version while (E) is for the E Version.

Symbol No.	Part No.	Part Name	Description	
IC1	SCV1585-064	I.C.(M)	JVC	(U) ← for U version
	SCV1585-067	I.C.(M)	JVC	(E) ← for E version

6.1 AUDIO & LCD BOARD ASSEMBLY PARTS LIST [0][1]

SLK1042-A1A(for U. Ver.)/SLK1042-B0A(for E. Ver.) [0][1]□□□□□□

Symbol No.	Part No.	Part Name	Description
IC1	M5218AFP-X	I.C.(M)	MITSUBISHI
IC2	M5218AFP-X	I.C.(M)	MITSUBISHI
IC3	M5218AFP-X	I.C.(M)	MITSUBISHI
IC4	M5218AFP-X	I.C.(M)	MITSUBISHI
IC5	TC4W53F-X	I.C.(M)	TOSHIBA
IC6	TC4W53F-X	I.C.(M)	TOSHIBA
IC7	TC4053BF-X	I.C.(M)	TOSHIBA
IC8	TC4053BF-X	I.C.(M)	TOSHIBA
IC9	TC4S81F-X	I.C.(M)	TOSHIBA
IC10	TC4S81F-X	I.C.(M)	TOSHIBA
IC11	TC4S81F-X	I.C.(M)	TOSHIBA
IC12	TC4S81F-X	I.C.(M)	TOSHIBA
IC13	M5282FP-X	I.C.(M)	MITSUBISHI
IC14	M5282FP-X	I.C.(M)	MITSUBISHI
IC15	M5218AFP-X	I.C.(M)	MITSUBISHI
IC16	M5218AFP-X	I.C.(M)	MITSUBISHI
IC17	BA10358F-X	I.C.(M)	ROHM
IC18	BA10358F-X	I.C.(M)	ROHM
IC19	M5218AFP-X	I.C.(M)	MITSUBISHI
IC21	TC4W53F-X	I.C.(M)	TOSHIBA
IC22	TC4W53F-X	I.C.(M)	TOSHIBA
IC101	M5218AFP-X	I.C.(M)	MITSUBISHI
IC201	M5218AFP-X	I.C.(M)	MITSUBISHI
IC202	M5218AFP-X	I.C.(M)	MITSUBISHI
IC203	AK5340-VS	I.C.(M)	ASAHIKASEI
IC204	AN77L05M-X	I.C.(M)	MATSUSHITA
IC205	PCM1710U/G/-X	I.C.(M)	BAR BRAWN
IC206	AN77L05M-X	I.C.(M)	MATSUSHITA
IC207	TC74HCT541AF-X	I.C.(M)	TOSHIBA
IC208	TC4094BF-X	I.C.(M)	TOSHIBA
IC209	M5201FP-X	I.C.(M)	MITSUBISHI
IC210	M5201FP-X	I.C.(M)	MITSUBISHI
IC211	M5218AFP-X	I.C.(M)	MITSUBISHI
IC212	M5216FP-X	I.C.(M)	MITSUBISHI
IC220	TC7S04F-X	I.C.(M)	TOSHIBA
IC301	BA7765AS	I.C.(M)	ROHM
IC302	BA7765AS	I.C.(M)	ROHM
IC401	UPD78P054GC-400	I.C.(M)	JVC (U)
IC401	UPD78P054GC-500	I.C.(M)	JVC (E)
IC402	NJU6433FB2	I.C.(M)	JRC
IC403	TC7W126FU-X	I.C.(M)	TOSHIBA
IC404	TC4S69F-X	I.C.(M)	TOSHIBA
IC405	TC4S71F-X	I.C.(M)	TOSHIBA
IC406	TC74HC08AF-X	I.C.(M)	TOSHIBA
IC407	TC4S66F-X	I.C.(M)	TOSHIBA
IC408	TC4S81F-X	I.C.(M)	TOSHIBA
IC410	TC4538BF-X	I.C.(M)	TOSHIBA
IC411	MSM6338MS-K	I.C.(M)	OKI
IC412	TC4W53F-X	I.C.(M)	TOSHIBA
IC413	UPC393G2-X	I.C.(M)	NEC
IC414	UPC393G2-X	I.C.(M)	NEC
IC415	M5218AFP-X	I.C.(M)	MITSUBISHI
IC418	S-8420BF-X	I.C.(M)	SEIKO
IC419	S-8054HN-CB-X	I.C.(M)	SEIKO
IC420	TC4S69F-X	I.C.(M)	TOSHIBA
IC422	TC7W74F-X	I.C.(M)	TOSHIBA
IC423	TC7W74F-X	I.C.(M)	TOSHIBA
IC424	BA10358F-X	I.C.(M)	ROHM
IC425	BA10358F-X	I.C.(M)	ROHM
IC426	TC4W53F-X	I.C.(M)	TOSHIBA
IC427	TC4W53F-X	I.C.(M)	TOSHIBA
Q1	2SD2240/RST/-X	TRANSISTOR	MATSUSHITA
Q2	2SD2240/RST/-X	TRANSISTOR	MATSUSHITA
Q3	2SB1463/RST/-X	TRANSISTOR	MATSUSHITA
Q4	2SB1463/RST/-X	TRANSISTOR	MATSUSHITA
Q5	2SD2240/RST/-X	TRANSISTOR	MATSUSHITA
Q6	2SD2240/RST/-X	TRANSISTOR	MATSUSHITA
Q7	DTC124EUA-X	TRANSISTOR	ROHM
Q8	DTC124EUA-X	TRANSISTOR	ROHM
Q9	DTC124EUA-X	TRANSISTOR	ROHM
Q10	DTC124EUA-X	TRANSISTOR	ROHM

Symbol No.	Part No.	Part Name	Description
Q11	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q12	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q13	DTC124EUA-X	TRANSISTOR	ROHM
Q14	DTC124EUA-X	TRANSISTOR	ROHM
Q17	DTA124EUA-X	TRANSISTOR	ROHM
Q18	DTA124EUA-X	TRANSISTOR	ROHM
Q19	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q20	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q21	2SD2240/RST/-X	TRANSISTOR	MATSUSHITA
Q22	2SD2240/RST/-X	TRANSISTOR	MATSUSHITA
Q101	DTC114TUA-X	TRANSISTOR	ROHM
Q102	DTC114TUA-X	TRANSISTOR	ROHM
Q103	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q104	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q201	DTC124EUA-X	TRANSISTOR	ROHM
Q202	DTA124EUA-X	TRANSISTOR	ROHM
Q203	DTC124TUA-X	TRANSISTOR	ROHM
Q204	DTC124EUA-X	TRANSISTOR	ROHM
Q205	2SB1463/RST/-X	TRANSISTOR	MATSUSHITA
Q206	FMW3-X	TRANSISTOR	ROHM
Q207	FMW3-X	TRANSISTOR	ROHM
Q209	2SD601A/QRS/-X	TRANSISTOR	MATSUSHITA
Q301	2SC2873/Y/-X	TRANSISTOR	TOSHIBA
Q401	DTC124EUA-X	TRANSISTOR	ROHM
Q402	DTA124EUA-X	TRANSISTOR	ROHM
Q403	FMG1A-W	TRANSISTOR	ROHM
Q404	DTC124EUA-X	TRANSISTOR	ROHM
Q405	DTC124EUA-X	TRANSISTOR	ROHM
Q406	FMC2A-X	TRANSISTOR	ROHM
Q407	FMC2A-X	TRANSISTOR	ROHM
Q410	DTC124EUA-X	TRANSISTOR	ROHM
Q411	2SA1577/QR/-X	TRANSISTOR	ROHM
Q412	2SA1577/QR/-X	TRANSISTOR	ROHM
Q413	DTA124EUA-X	TRANSISTOR	ROHM
Q414	DTA124EUA-X	TRANSISTOR	ROHM
Q415	FMC2A-X	TRANSISTOR	ROHM
D1	DA204U-X	DIODE	ROHM
D2	DA204U-X	DIODE	ROHM
D3	DA204U-X	DIODE	ROHM
D4	DA204U-X	DIODE	ROHM
D9	DA204U-X	DIODE	ROHM
D10	DA204U-X	DIODE	ROHM
D11	1SS133K	DIODE	ROHM
D12	1SS133K	DIODE	ROHM
D13	DAP202U-X	DIODE	ROHM
D101	DAN202U-X	DIODE	ROHM
D201	DAN202U-X	DIODE	ROHM
D202	DA204U-X	DIODE	ROHM
D401	DA204U-X	DIODE	ROHM
D402	DAN202U-X	DIODE	ROHM
D404	DAN202U-X	DIODE	ROHM
D405	TLSG208	L.E.D.	
D406	PGZ02384	BACK LIGHT ASSEMBLY	
R1	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R2	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R3	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R4	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R5	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R6	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R7	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R8	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R9	NRSA02J-182X	M.G.RESISTOR	1.8k 1/10W
R10	NRSA02J-182X	M.G.RESISTOR	1.8k 1/10W
R11	NRSA02J-182X	M.G.RESISTOR	1.8k 1/10W
R12	NRSA02J-182X	M.G.RESISTOR	1.8k 1/10W
R13	NRSA02J-331X	M.G.RESISTOR	330 1/10W
R14	NRSA02J-331X	M.G.RESISTOR	330 1/10W
R15	NRSA02J-331X	M.G.RESISTOR	330 1/10W
R16	NRSA02J-331X	M.G.RESISTOR	330 1/10W
R17	NRSA63J-273X	M.G.RESISTOR	27k 1/16W
R18	NRSA63J-273X	M.G.RESISTOR	27k 1/16W

Symbol No.	Part No.	Part Name	Description	
R19	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R20	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R21	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R22	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R23	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R24	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R25	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R26	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R27	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R28	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R29	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R30	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R31	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R32	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R33	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R34	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R35	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R36	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R37	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R38	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R39	NRSA63J-750X	M.G.RESISTOR	75	1/16W
R40	NRSA63J-750X	M.G.RESISTOR	75	1/16W
R41	NRSA63J-680X	M.G.RESISTOR	68	1/16W
R42	NRSA63J-680X	M.G.RESISTOR	68	1/16W
R43	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R44	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R45	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R46	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R47	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R48	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R49	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R50	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R51	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R52	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R53	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R54	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R55	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R56	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R57	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R58	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R59	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R60	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R61	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R62	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R63	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R64	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R65	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R66	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R67	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R68	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R69	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R70	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R71	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R72	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R73	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R74	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R75	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R76	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R77	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R78	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R79	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R80	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R81	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R82	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R83	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R84	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R85	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R86	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R88	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R89	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R90	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R101	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R102	NRSA63J-154X	M.G.RESISTOR	150k	1/16W

Symbol No.	Part No.	Part Name	Description	
R103	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R104	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R105	NRSA63J-183X	M.G.RESISTOR	18k	1/16W
R106	NRSA63J-183X	M.G.RESISTOR	18k	1/16W
R107	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R108	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R109	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R110	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R111	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R112	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R113	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R114	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R115	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R116	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R117	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R118	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R119	NRSA63J-563X	M.G.RESISTOR	56k	1/16W
R120	NRSA63J-563X	M.G.RESISTOR	56k	1/16W
R121	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R122	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R123	NRSA63J-112X	M.G.RESISTOR	1.1k	1/16W
R124	NRSA63J-112X	M.G.RESISTOR	1.1k	1/16W
R125	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R126	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R127	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R128	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R129	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R130	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R133	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R134	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R135	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R136	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R137	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R138	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R139	NRSA63J-184X	M.G.RESISTOR	180k	1/16W
R140	NRSA63J-184X	M.G.RESISTOR	180k	1/16W
R141	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R142	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R143	NRSA63J-683X	M.G.RESISTOR	68k	1/16W
R144	NRSA63J-683X	M.G.RESISTOR	68k	1/16W
R145	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R146	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R147	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R148	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R149	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R150	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R151	NRSA63J-122X	M.G.RESISTOR	1.2k	1/16W
R152	NRSA63J-122X	M.G.RESISTOR	1.2k	1/16W
R153	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R154	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R155	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R156	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R171	NRSA63J-823X	M.G.RESISTOR	82k	1/16W
R172	NRSA63J-823X	M.G.RESISTOR	82k	1/16W
R173	NRSA63J-823X	M.G.RESISTOR	82k	1/16W
R174	NRSA63J-823X	M.G.RESISTOR	82k	1/16W
R175	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R176	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R177	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R178	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R179	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R180	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R181	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R182	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R183	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R184	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R185	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R186	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R187	NRSA63J-181X	M.G.RESISTOR	180	1/16W
R188	NRSA63J-181X	M.G.RESISTOR	180	1/16W
R189	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R190	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R191	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W

Symbol No.	Part No.	Part Name	Description	
R192	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R201	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R202	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R203	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R204	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R205	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R206	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R207	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R208	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R209	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R210	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R211	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R212	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R213	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R214	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R215	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R216	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R221	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R222	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R223	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R224	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R225	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R226	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R227	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R228	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R229	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R230	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R231	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R232	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R233	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R234	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R235	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R236	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R237	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R238	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R239	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R242	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R244	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R245	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R246	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R247	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R248	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R249	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R250	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R251	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R252	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R253	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R254	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R261	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R262	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R263	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R264	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R265	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R266	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R267	NRSA63J-303X	M.G.RESISTOR	30k	1/16W
R268	NRSA63J-303X	M.G.RESISTOR	30k	1/16W
R269	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R270	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R271	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R272	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R273	NRSA63J-242X	M.G.RESISTOR	2.4k	1/16W
R274	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R275	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R276	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R277	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R278	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R279	NRSA63J-202X	M.G.RESISTOR	2k	1/16W
R280	NRSA63J-202X	M.G.RESISTOR	2k	1/16W
R281	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R282	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R283	NRSA63J-122X	M.G.RESISTOR	1.2k	1/16W
R284	NRSA63J-122X	M.G.RESISTOR	1.2k	1/16W
R285	NRSA63J-333X	M.G.RESISTOR	33k	1/16W

Symbol No.	Part No.	Part Name	Description	
R286	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R287	NRSA63J-362X	M.G.RESISTOR	3.6k	1/16W
R288	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R290	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R291	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R293	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R294	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R296	NRSA63J-362X	M.G.RESISTOR	3.6k	1/16W
R297	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R298	NRSA63J-362X	M.G.RESISTOR	3.6k	1/16W
R299	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R301	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R302	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R303	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R304	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R305	NRSA63J-124X	M.G.RESISTOR	120k	1/16W
R306	NRSA63J-124X	M.G.RESISTOR	120k	1/16W
R307	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R308	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R309	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R310	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R311	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R312	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R313	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R314	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R315	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R316	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R317	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R318	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R319	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R320	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R321	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R322	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R323	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R324	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R325	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R326	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R327	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R328	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R329	NRSA63J-122X	M.G.RESISTOR	1.2k	1/16W
R330	NRSA63J-122X	M.G.RESISTOR	1.2k	1/16W
R331	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R332	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R333	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R334	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R335	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R336	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R337	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R338	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R339	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R340	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R341	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R342	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R343	NRSA63J-4R7X	M.G.RESISTOR	4.7	1/16W
R344	NRSA63J-123X	M.G.RESISTOR	12k	1/16W
R347	NRSA63J-202X	M.G.RESISTOR	2k	1/16W
R348	NRSA63J-202X	M.G.RESISTOR	2k	1/16W
R349	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R350	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R401	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R402	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R403	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R404	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R405	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R406	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R407	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R408	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R409	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R410	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R411	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R412	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R413	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R414	NRSA63J-333X	M.G.RESISTOR	33k	1/16W

Symbol No.	Part No.	Part Name	Description	
R415	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R416	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R417	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R418	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R419	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R420	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R421	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R422	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R423	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R424	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R425	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R426	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R427	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R428	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R429	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R430	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R431	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R432	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R433	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R434	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R435	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R436	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R437	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R438	NRSA63J-750X	M.G.RESISTOR	75	1/16W
R439	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R440	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R441	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R442	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R443	NRSA63J-334X	M.G.RESISTOR	330k	1/16W
R444	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R445	NRSA63J-123X	M.G.RESISTOR	12k	1/16W
R446	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R451	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R452	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R453	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R454	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R455	NRSA63J-334X	M.G.RESISTOR	330k	1/16W
R456	NRSA63J-271X	M.G.RESISTOR	270	1/16W
R457	NRSA63J-271X	M.G.RESISTOR	270	1/16W
R458	NRSA63J-220X	M.G.RESISTOR	22	1/16W
R459	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R460	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R461	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R462	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R463	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R464	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R465	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R466	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R467	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R468	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R469	NRSA63J-824X	M.G.RESISTOR	820k	1/16W
R470	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R471	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R472	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R473	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R474	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R475	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R476	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R477	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R478	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R479	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R480	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R481	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R482	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R483	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R484	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R485	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R486	NRSA63J-271X	M.G.RESISTOR	270	1/16W
R487	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R488	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R489	NRSA63J-271X	M.G.RESISTOR	270	1/16W
R490	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R491	NRSA63J-470X	M.G.RESISTOR	47	1/16W

Symbol No.	Part No.	Part Name	Description	
R492	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R493	NRSA63J-334X	M.G.RESISTOR	330k	1/16W
R494	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R495	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R496	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R497	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R498	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R500	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R502	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R503	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R504	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R505	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R506	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R507	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R511	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R512	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R513	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R514	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R515	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R516	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R556	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R557	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R558	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R559	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R560	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R561	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R562	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R563	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R564	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R565	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R566	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R567	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R568	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R601	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R602	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R603	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R604	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R605	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R606	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R607	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R608	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R609	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R610	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R621	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R622	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R623	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R627	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R630	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R632	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R633	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R634	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R635	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R636	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R637	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R638	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R639	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R640	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R641	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R642	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R643	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R645	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R651	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R652	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R701	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R702	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R703	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R704	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R705	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R706	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R707	NRSA02J-510X	M.G.RESISTOR	51	1/10W
R708	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R709	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R710	NRSA63J-102X	M.G.RESISTOR	1k	1/16W

Symbol No.	Part No.	Part Name	Description
R711	NRSA63J-474X	M.G.RESISTOR	470k 1/16W
R712	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R713	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R714	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R715	NRSA63J-122X	M.G.RESISTOR	1.2k 1/16W
R717	NRSA63J-122X	M.G.RESISTOR	1.2k 1/16W
R718	NRSA63J-122X	M.G.RESISTOR	1.2k 1/16W
R719	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R720	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R727	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R728	NRSA02J-510X	M.G.RESISTOR	51 1/10W
VR1	QVAA15A-S14	V.RESISTOR	10k AUD1 REC L
VR2	QVAA15A-S14	V.RESISTOR	10k AUD2 REC L
VR201	PGZ01538	TRIM.RESISTOR	AUDIO MONITOR V
VR202	QVQ0031-A14	VAL.RESISTOR	10k ALARM VOL
VR261	NVP1415-103X	TRIM.RESISTOR	10k AUD1 OUT L
VR262	NVP1415-103X	TRIM.RESISTOR	10k AUD2 OUT L
C1	NCS31HJ-221X	CER.CAPACITOR	220p 50V
C2	NCS31HJ-221X	CER.CAPACITOR	220p 50V
C3	NCS31HJ-221X	CER.CAPACITOR	220p 50V
C4	NCS31HJ-221X	CER.CAPACITOR	220p 50V
C5	NCS31HJ-221X	CER.CAPACITOR	220p 50V
C6	NCS31HJ-221X	CER.CAPACITOR	220p 50V
C7	NCS31HJ-221X	CER.CAPACITOR	220p 50V
C8	NCS31HJ-221X	CER.CAPACITOR	220p 50V
C9	NCB31HK-222X	CER.CAPACITOR	2200p 50V
C10	NCB31HK-222X	CER.CAPACITOR	2200p 50V
C11	NEH91HM-105X	E.CAPACITOR	1 50V
C12	NEH91HM-105X	E.CAPACITOR	1 50V
C13	NEH91HM-105X	E.CAPACITOR	1 50V
C14	NEH91HM-105X	E.CAPACITOR	1 50V
C15	NEH91HM-105X	E.CAPACITOR	1 50V
C16	NEH91HM-105X	E.CAPACITOR	1 50V
C17	NEH91HM-105X	E.CAPACITOR	1 50V
C18	NEH91HM-105X	E.CAPACITOR	1 50V
C19	NEH91HM-105X	E.CAPACITOR	1 50V
C20	NEH91HM-105X	E.CAPACITOR	1 50V
C21	NEH91HM-105X	E.CAPACITOR	1 50V
C22	NEH91HM-105X	E.CAPACITOR	1 50V
C23	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C24	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C25	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C26	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C27	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C28	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C29	NBE41AM-106X	TAN.CAPACITOR	10 10V
C30	NBE41AM-106X	TAN.CAPACITOR	10 10V
C31	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C32	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C33	NBE41AM-106X	TAN.CAPACITOR	10 10V
C34	NBE41AM-106X	TAN.CAPACITOR	10 10V
C35	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C36	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C47	NBE20JM-106X	TAN.CAPACITOR	10 6.3V
C48	NBE20JM-106X	TAN.CAPACITOR	10 6.3V
C49	NBE20JM-106X	TAN.CAPACITOR	10 6.3V
C50	NBE20JM-106X	TAN.CAPACITOR	10 6.3V
C51	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C52	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C53	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C54	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C55	NBE41CM-106X	TAN.CAPACITOR	10 16V
C56	NBE41CM-106X	TAN.CAPACITOR	10 16V
C57	NBE21VM-474X	TAN.CAPACITOR	0.47 35V
C58	NBE21VM-474X	TAN.CAPACITOR	0.47 35V
C59	NBE71CM-476X	TAN.CAPACITOR	47 16V
C60	NBE71CM-476X	TAN.CAPACITOR	47 16V
C61	NBE21VM-474X	TAN.CAPACITOR	0.47 35V
C62	NBE21VM-474X	TAN.CAPACITOR	0.47 35V
C69	NCF31CZ-104X	CER.CAPACITOR	0.1 16V

Symbol No.	Part No.	Part Name	Description
C70	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C73	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C74	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C85	NBE20JM-106X	TAN.CAPACITOR	10 6.3V
C86	NBE20JM-106X	TAN.CAPACITOR	10 6.3V
C87	NBE20JM-106X	TAN.CAPACITOR	10 6.3V
C88	NBE20JM-106X	TAN.CAPACITOR	10 6.3V
C101	NBE41CM-106X	TAN.CAPACITOR	10 16V
C102	NBE41CM-106X	TAN.CAPACITOR	10 16V
C103	NBE41EM-475X	TAN.CAPACITOR	4.7 25V
C104	NBE41EM-475X	TAN.CAPACITOR	4.7 25V
C105	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C106	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C107	NBE41CM-106X	TAN.CAPACITOR	10 16V
C108	NBE41CM-106X	TAN.CAPACITOR	10 16V
C109	NBE41CM-106X	TAN.CAPACITOR	10 16V
C110	NBE41CM-106X	TAN.CAPACITOR	10 16V
C113	NBE51CM-226X	TAN.CAPACITOR	22 16V
C114	NBE51CM-226X	TAN.CAPACITOR	22 16V
C115	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C116	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C117	NBE71CM-476X	TAN.CAPACITOR	47 16V
C118	NBE71CM-476X	TAN.CAPACITOR	47 16V
C119	NBE51VM-475X	TAN.CAPACITOR	4.7 35V
C120	NBE51VM-475X	TAN.CAPACITOR	4.7 35V
C121	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C122	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C123	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C124	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C125	NBE41AM-106X	TAN.CAPACITOR	10 10V
C126	NBE41AM-106X	TAN.CAPACITOR	10 10V
C127	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C128	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C129	NBE41AM-106X	TAN.CAPACITOR	10 10V
C130	NBE41AM-106X	TAN.CAPACITOR	10 10V
C131	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C132	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C133	NBE21VM-474X	TAN.CAPACITOR	0.47 35V
C134	NBE21VM-474X	TAN.CAPACITOR	0.47 35V
C135	NBE21EM-105X	TAN.CAPACITOR	1 25V
C136	NBE21EM-105X	TAN.CAPACITOR	1 25V
C137	NBE21CM-105X	TAN.CAPACITOR	1 16V
C138	NBE21CM-105X	TAN.CAPACITOR	1 16V
C141	NEN21VM-225X	N.P.CAPACITOR	2.2 35V
C142	NEN21VM-225X	N.P.CAPACITOR	2.2 35V
C143	NBE41CM-106X	TAN.CAPACITOR	10 16V
C144	NBE41CM-106X	TAN.CAPACITOR	10 16V
C145	NBE41EM-475X	TAN.CAPACITOR	4.7 25V
C146	NBE41EM-475X	TAN.CAPACITOR	4.7 25V
C147	NEN21EM-475X	N.P.CAPACITOR	4.7 25V
C148	NEN21EM-475X	N.P.CAPACITOR	4.7 25V
C181	NBE41CM-106X	TAN.CAPACITOR	10 16V
C182	NBE41CM-106X	TAN.CAPACITOR	10 16V
C183	NBE41CM-106X	TAN.CAPACITOR	10 16V
C184	NBE41CM-106X	TAN.CAPACITOR	10 16V
C185	NBE51CM-226X	TAN.CAPACITOR	22 16V
C186	NBE51CM-226X	TAN.CAPACITOR	22 16V
C187	NBE71CM-476X	TAN.CAPACITOR	47 16V
C188	NBE71CM-476X	TAN.CAPACITOR	47 16V
C191	NBE41CM-106X	TAN.CAPACITOR	10 16V
C193	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C194	NBE71CM-476X	TAN.CAPACITOR	47 16V
C201	NBE41CM-106X	TAN.CAPACITOR	10 16V
C203	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C204	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C205	NFV41HJ-152X	M.F.CAPACITOR	1500p 50V
C206	NFV41HJ-152X	M.F.CAPACITOR	1500p 50V
C207	NBE71CM-476X	TAN.CAPACITOR	47 16V
C208	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C211	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C212	NBE41CM-106X	TAN.CAPACITOR	10 16V
C213	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C214	NBE41CM-106X	TAN.CAPACITOR	10 16V

Symbol No.	Part No.	Part Name	Description	
C215	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C216	NBE41CM-106X	TAN.CAPACITOR	10	16V
C217	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C218	NBE41CM-106X	TAN.CAPACITOR	10	16V
C219	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C227	NBE41CM-106X	TAN.CAPACITOR	10	16V
C228	NBE41CM-106X	TAN.CAPACITOR	10	16V
C229	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C230	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C231	NBE41CM-106X	TAN.CAPACITOR	10	16V
C232	NBE41CM-106X	TAN.CAPACITOR	10	16V
C233	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C234	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C235	NBE41CM-106X	TAN.CAPACITOR	10	16V
C236	NBE41CM-106X	TAN.CAPACITOR	10	16V
C237	NBE41CM-106X	TAN.CAPACITOR	10	16V
C238	NBE41CM-106X	TAN.CAPACITOR	10	16V
C240	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C241	NBE41CM-106X	TAN.CAPACITOR	10	16V
C242	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C244	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C252	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C253	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C261	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C262	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C263	NCS21HJ-680X	CER.CAPACITOR	68p	50V
C264	NCS21HJ-680X	CER.CAPACITOR	68p	50V
C265	NBE41CM-106X	TAN.CAPACITOR	10	16V
C266	NBE41CM-106X	TAN.CAPACITOR	10	16V
C267	NBE61EM-226X	TAN.CAPACITOR	22	25V
C268	NBE61EM-226X	TAN.CAPACITOR	22	25V
C269	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C270	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C273	NCB31HK-222X	CER.CAPACITOR	2200p	50V
C275	NBE41EM-475X	TAN.CAPACITOR	4.7	25V
C276	NBE41EM-475X	TAN.CAPACITOR	4.7	25V
C277	NBE61EM-226X	TAN.CAPACITOR	22	25V
C278	NBE51EM-106X	TAN.CAPACITOR	10	25V
C279	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C280	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C281	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C282	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C283	NBE61EM-226X	TAN.CAPACITOR	22	25V
C287	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C288	NBE71CM-476X	TAN.CAPACITOR	47	16V
C289	NBE71CM-476X	TAN.CAPACITOR	47	16V
C290	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C301	NCS31HJ-821X	CER.CAPACITOR	820p	50V
C302	NCS31HJ-821X	CER.CAPACITOR	820p	50V
C303	NBE41EM-475X	TAN.CAPACITOR	4.7	25V
C304	NBE41EM-475X	TAN.CAPACITOR	4.7	25V
C305	NCS31HJ-680X	CER.CAPACITOR	68p	50V
C306	NCS31HJ-680X	CER.CAPACITOR	68p	50V
C307	NFV41HJ-273X	M.F. CAPACITOR	0.027	50V
C308	NFV41HJ-273X	M.F. CAPACITOR	0.027	50V
C309	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C310	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C311	NBE71CM-476X	TAN.CAPACITOR	47	16V
C312	NBE71CM-476X	TAN.CAPACITOR	47	16V
C313	NBE71CM-476X	TAN.CAPACITOR	47	16V
C314	NBE71CM-476X	TAN.CAPACITOR	47	16V
C315	NEN21CM-106X	N.P.CAPACITOR	10	16V
C316	NEN21CM-106X	N.P.CAPACITOR	10	16V
C317	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C318	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C319	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C320	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C321	NBE51CM-226X	TAN.CAPACITOR	22	16V
C322	NBE51CM-226X	TAN.CAPACITOR	22	16V
C323	NBE51CM-226X	TAN.CAPACITOR	22	16V
C324	NBE51CM-226X	TAN.CAPACITOR	22	16V
C325	NEN41EM-226X	N.P.CAPACITOR	22	25V
C326	NEN41EM-226X	N.P.CAPACITOR	22	25V

Symbol No.	Part No.	Part Name	Description	
C327	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C328	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C329	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C330	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C331	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C332	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C333	NBE41CM-106X	TAN.CAPACITOR	10	16V
C334	NBE41CM-106X	TAN.CAPACITOR	10	16V
C335	NBE41CM-106X	TAN.CAPACITOR	10	16V
C336	NBE41CM-106X	TAN.CAPACITOR	10	16V
C337	NFV41HJ-272X	M.F. CAPACITOR	2700p	50V
C338	NFV41HJ-272X	M.F. CAPACITOR	2700p	50V
C339	NFV41HJ-102X	M.F. CAPACITOR	1000p	50V
C340	NFV41HJ-102X	M.F. CAPACITOR	1000p	50V
C341	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C342	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C343	NBE71CM-476X	TAN.CAPACITOR	47	16V
C344	NBE71CM-476X	TAN.CAPACITOR	47	16V
C345	NBE71CM-476X	TAN.CAPACITOR	47	16V
C346	NBE71CM-476X	TAN.CAPACITOR	47	16V
C347	NBE21EM-105X	TAN.CAPACITOR	1	25V
C348	NBE21EM-105X	TAN.CAPACITOR	1	25V
C349	NCS31HJ-181X	CER.CAPACITOR	180p	50V
C350	NCS31HJ-181X	CER.CAPACITOR	180p	50V
C351	NBE41CM-106X	TAN.CAPACITOR	10	16V
C352	NCB31HK-392X	CER.CAPACITOR	3900p	50V
C353	NCB31HK-561X	CER.CAPACITOR	560p	50V
C354	NCF31HZ-333X	CER.CAPACITOR	0.033	50V
C355	NCF31HZ-473X	CER.CAPACITOR	0.047	50V
C371	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C372	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C401	NBE51EM-106X	TAN.CAPACITOR	10	25V
C402	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C403	NBE61EM-226X	TAN.CAPACITOR	22	25V
C404	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C405	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C406	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C407	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C408	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C409	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C410	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C411	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C412	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C413	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C414	NCB31CK-333X	CER.CAPACITOR	0.033	16V
C415	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C416	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C418	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C419	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C420	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C421	NBE51EM-106X	TAN.CAPACITOR	10	25V
C422	NBE21EM-474X	TAN.CAPACITOR	0.47	25V
C423	NBE51CM-226X	TAN.CAPACITOR	22	16V
C424	NBE51CM-336X	TAN.CAPACITOR	33	16V
C425	NBE71CM-476X	TAN.CAPACITOR	47	16V
C426	NCS31HJ-180X	CER.CAPACITOR	18p	50V
C428	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C429	NCS31HJ-150X	CER.CAPACITOR	15p	50V
C431	NCS31HJ-150X	CER.CAPACITOR	15p	50V
C432	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C433	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C434	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C435	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C436	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C437	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C438	NEH91HM-105X	E.CAPACITOR	1	50V
C439	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C440	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C441	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C442	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C443	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C444	NBE51EM-106X	TAN.CAPACITOR	10	25V
C445	NCF31CZ-104X	CER.CAPACITOR	0.1	16V

Symbol No.	Part No.	Part Name	Description
C446	NBE61EM-226X	TAN.CAPACITOR	22 25V
C447	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C448	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C449	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C450	NCF31CZ-334X	CER.CAPACITOR	0.33 16V
C451	NEH91EM-106X	E.CAPACITOR	10 25V
C452	NEH91EM-106X	E.CAPACITOR	10 25V
C453	NEH91EM-106X	E.CAPACITOR	10 25V
C454	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C701	NBE21CM-475X	TAN.CAPACITOR	4.7 16V
C702	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C703	NBE41EM-475X	TAN.CAPACITOR	4.7 25V
C704	NBE21EM-474X	TAN.CAPACITOR	0.47 25V
C705	NBE41CM-106X	TAN.CAPACITOR	10 16V
C706	NCS31HJ-101X	CER.CAPACITOR	100p 50V
C707	NBE61EM-226X	TAN.CAPACITOR	22 25V
C708	NBE61EM-226X	TAN.CAPACITOR	22 25V
C709	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C710	NBE41CM-106X	TAN.CAPACITOR	10 16V
C712	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C715	NBE61EM-226X	TAN.CAPACITOR	22 25V
C716	NBE61EM-226X	TAN.CAPACITOR	22 25V
C717	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C718	NBE21EM-474X	TAN.CAPACITOR	0.47 25V
C719	NBE20JM-475X	TAN.CAPACITOR	4.7 6.3V
C723	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
VC401	NAT3112-400RZ	TRIM.CAPACITOR	40p SUB CLOCK
L1	NQL124J-101X	COIL	100uH
L2	NQL124J-101X	COIL	100uH
L3	NQL124J-101X	COIL	100uH
L4	NQL124J-101X	COIL	100uH
L209	NQL114K-101X	COIL	100uH
L401	NQL114K-100X	COIL	10uH
L402	NQL114K-100X	COIL	10uH
L403	NQL114K-100X	COIL	10uH
L404	NQL114K-100X	COIL	10uH
L405	NQL114K-100X	COIL	10uH
LC201	PGZ01972Z	LC FILTER	
LC202	PGZ01972Z	LC FILTER	
LC203	PGZ01972Z	LC FILTER	
LC204	PGZ01972Z	LC FILTER	
X401	PGZ02200-001	CRYSTAL	4.192MHz
X402	SSV2318-001Z	CRYSTAL	32.756MHz
TH401	NAD0002-152X	THERMISTOR	1.5k
S1	QSS1A42-L01	SLIDE SWITCH	AUD1 +4/-60 SEL
S2	QSS1A42-L01	SLIDE SWITCH	AUD2 +4/-60 SEL
S3	QSW0457-001	SLIDE SW	AUD1 LINE/CAM
S4	SCV2730-001	SLIDE SWITCH	AUD2 LINE/CA/AU
S5	QSS4E12-S02	SLIDE SWITCH	AUD1 AUTO/MANU
S6	QSS4E12-S02	SLIDE SWITCH	AUD2 AUTO/MANU
S201	PGZ00470-02	SLIDE SWITCH	AUDIO MONITOR
S401	QSS4E12-S02	SLIDE SWITCH	REGEN/ PRESET
S402	QSS4E12-S02	SLIDE SWITCH	FREE/REC
S403	QSS4E12-S02	SLIDE SWITCH	TC DISP
S404	QSS4E12-S02	SLIDE SWITCH	LIGHT
S405	PGZ01249	TACT SWITCH	HOLD
S406	PGZ01249	TACT SWITCH	SHIFT
S407	PGZ01249	TACT SWITCH	ADVANCE
S408	PGZ01249	TACT SWITCH	PRESET
S409	SCV2584-001	SLIDE SWITCH	UB/TC/CTL
S410	PGZ01249	TACT SWITCH	RESET
S411	PGZ01249	TACT SWITCH	MENU
CN1	SSV2637-L03	CONNECTOR	3PIN

Symbol No.	Part No.	Part Name	Description
CN2	SSV2637-L03	CONNECTOR	3PIN
CN3	SSV2637-L08	CONNECTOR	8PIN
CN4	PGZ01932-015Z	CONNECTOR	15PIN
CN5	PGZ01932-008Z	CONNECTOR	8PIN
CN6	SSV2637-L02	CONNECTOR	2PIN
CN7	PGZ01932-010Z	CONNECTOR	10PIN
CN8	SCV2596-030W	CONNECTOR	30PIN
CN9	SSV2637-L10	CONNECTOR	10PIN
CN401	SSV2637-L02	CONNECTOR	2PIN
TP	SSV1096-001	TEST POINT	TP1-TP492
DA401	QLD0010-001	LCD	
K202	PGZ00627Z	FERRATE BEADS	
K204	PGZ00627Z	FERRATE BEADS	
K205	PGZ00627Z	FERRATE BEADS	
K206	PGZ00627Z	FERRATE BEADS	
K207	PGZ00627Z	FERRATE BEADS	
K401	PGZ00627Z	FERRATE BEADS	
K402	PGZ00627Z	FERRATE BEADS	
K403	PGZ00627Z	FERRATE BEADS	
K404	PGZ00627Z	FERRATE BEADS	
K405	PGZ00627Z	FERRATE BEADS	
K406	PGZ00627Z	FERRATE BEADS	
K407	PGZ00627Z	FERRATE BEADS	
T301	NQR0185-001X	BIAS OSC COIL	
TB	PGZ02228	EARTH LUG	TB201-TB403

6.2 PV PROCESS BOARD ASSEMBLY PARTS LIST [0][2]

SLK1069-01A(for U. Ver.)/SLK1069-B0A(for E. Ver.) [0][2]□□□□□□

Symbol No.	Part No.	Part Name	Description	
IC1	TC4094BF-X	I.C.(M)	TOSHIBA	
IC2	TC4094BF-X	I.C.(M)	TOSHIBA	
IC3	SN74CBT3245PW-X	I.C.(M)	TEXAS	
IC5	SN74CBT3245PW-X	I.C.(M)	TEXAS	
IC6	SN74CBT3245PW-X	I.C.(M)	TEXAS	
IC7	JCL0029	I.C.(M)	JVC	
IC8	JCL0030	I.C.(M)	JVC	
IC9	JCL0028	I.C.(M)	JVC	
IC10	SN74CBT3384PW-X	I.C.(M)	TEXAS	
IC11	SN74CBT3245PW-X	I.C.(M)	TEXAS	
IC12	S-81240PG-PJ-X	I.C.(M)	SEIKO	
IC13	TC7S04F-X	I.C.(M)	TOSHIBA	
IC14	EPM032VT-20-001	I.C.(M)	ALTERA	
IC15	DS26C32ATM-X	I.C.(M)	NATIONAL SEMICO	
IC16	SN74CBT3384PW-X	I.C.(M)	TEXAS	
IC17	TC4S66F-X	I.C.(M)	TOSHIBA	
IC18	UPD78P58YGC-200	I.C.(M)	JVC	(U)
IC18	UPD78P58YGC-400	I.C.(M)	JVC	(E)
IC19	TC7W126FU-X	I.C.(M)	TOSHIBA	
IC20	S-8054HN-CB-X	I.C.(M)	SEIKO	
IC21	DS90C031TM-X	I.C.(M)	NATIONAL SEMICO	
IC22	TC74HCT541AF-X	I.C.(M)	TOSHIBA	
IC23	S-81240PG-PJ-X	I.C.(M)	SEIKO	
IC24	DS90C032TM-X	I.C.(M)	NATIONAL SEMICO	
IC25	TC4S81F-W	I.C.(M)	TOSHIBA	
IC26	DS90C032TM-X	I.C.(M)	NATIONAL SEMICO	
IC27	TC7S86F	I.C.(M)	TOSHIBA	
IC28	TC74VHC541F-X	I.C.(M)	TOSHIBA	
IC29	UPC4082G2-X	I.C.(M)	NEC	
IC30	TC528267FT-70-X	I.C.(M)	TOSHIBA	
IC31	SN74CBT3384PW-X	I.C.(M)	TEXAS	
IC33	TC528267FT-70-X	I.C.(M)	TOSHIBA	
IC34	SN74CBT3384PW-X	I.C.(M)	TEXAS	
IC36	TC74HCT541AF-X	I.C.(M)	TOSHIBA	
IC37	TC74HCT541AF-X	I.C.(M)	TOSHIBA	
IC41	L7A1433	I.C.(M)	LSI LOGIC	
IC42	UPD42S4260ALG5	I.C.(M)	NEC	
IC43	L7A1433	I.C.(M)	LSI LOGIC	
IC44	UPD42S4260ALG5	I.C.(M)	NEC	
IC45	MN67371F	I.C.(M)	MATSUSHITA	
IC46	S-81224PG-PX-X	I.C.(M)	SEIKO	
IC47	MN67371F	I.C.(M)	MATSUSHITA	
IC48	S-81224PG-PX-X	I.C.(M)	SEIKO	
IC49	DS90C032TM-X	I.C.(M)	NATIONAL SEMICO	
IC51	TC74VHC244F-X	I.C.(M)	TOSHIBA	
IC55	UPD489001	I.C.(M)	NEC	
IC56	UPD489001	I.C.(M)	NEC	
IC57	UPD489001	I.C.(M)	NEC	
IC58	UPD489001	I.C.(M)	NEC	
IC59	DS90C031TM-X	I.C.(M)	NATIONAL SEMICO	
IC60	DS90C031TM-X	I.C.(M)	NATIONAL SEMICO	
IC61	TC74VHC126F-X	I.C.(M)	TOSHIBA	
IC62	TC74VHC74F-X	I.C.(M)	TOSHIBA	
IC66	DS90C032TM-X	I.C.(M)	NATIONAL SEMICO	
IC67	DS90C032TM-X	I.C.(M)	NATIONAL SEMICO	
IC301	UPC358G2-X	I.C.(M)	NEC	
IC302	TC74HC107AF-X	I.C.(M)	TOSHIBA	
IC303	TC74HC107AF-X	I.C.(M)	TOSHIBA	
IC304	MB87087PF	I.C.(M)	FUJITSU	
IC351	M65401FP	I.C.(M)	MITSUBISHI	
IC352	M65401FP	I.C.(M)	MITSUBISHI	
IC353	M52660FP	I.C.(M)	MITSUBISHI	
IC354	TC74VHC541F-X	I.C.(M)	TOSHIBA	
IC355	TC74HC541AF-X	I.C.(M)	TOSHIBA	
IC356	TC74HC00AF-X	I.C.(M)	TOSHIBA	
IC357	S-81224PG-PX-X	I.C.(M)	SEIKO	
IC503	TC74HCT541AF-X	I.C.(M)	TOSHIBA	
IC504	TC7W04F-X	I.C.(M)	TOSHIBA	
IC514	TC74VHC244F-X	I.C.(M)	TOSHIBA	
IC515	TC74VHC244F-X	I.C.(M)	TOSHIBA	
Q1	XN4509-W	TRANSISTOR	MATSUSHITA	
Q2	XN6435-X	TRANSISTOR	MATSUSHITA	

Symbol No.	Part No.	Part Name	Description	
D1	DAN202U-X	DIODE	ROHM	
D3	1SS133	DIODE	ROHM	
R11	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R12	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R13	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R14	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R15	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R16	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R17	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R18	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R19	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R20	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R21	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R22	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R23	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R25	NRSA63J-334X	M.G.RESISTOR	330k	1/16W
R27	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R28	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R29	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R30	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R31	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R32	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R34	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R35	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R36	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R37	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R38	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R39	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R40	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R41	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R42	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R43	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R44	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R45	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R46	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R47	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R48	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R49	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R50	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R51	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R52	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R53	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R54	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R55	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R56	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R57	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R58	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R59	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R60	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R61	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R62	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R63	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R65	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R66	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R67	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R68	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R69	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R70	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R71	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R72	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R73	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R74	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R75	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R76	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R77	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R78	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R79	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R80	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R81	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R82	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R84	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R85	NRSA63J-101X	M.G.RESISTOR	100	1/16W

Symbol No.	Part No.	Part Name	Description	
R86	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R87	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R88	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R89	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R90	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R91	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R92	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R93	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R94	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R95	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R97	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R98	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R99	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R100	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R102	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R103	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R104	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R105	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R109	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R111	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R112	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R115	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R116	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R117	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R118	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R119	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R120	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R121	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R122	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R123	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R124	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R125	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R129	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R132	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R133	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R135	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R136	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R137	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R138	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R139	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R140	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R141	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R143	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R145	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R146	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R147	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R148	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R149	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R150	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R151	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R152	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R153	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R154	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R155	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R156	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R157	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R158	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R160	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R161	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R162	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R163	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R164	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R165	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R166	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R167	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R169	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R181	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R182	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R183	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R184	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R186	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R189	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R190	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W

Symbol No.	Part No.	Part Name	Description	
R191	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R192	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R195	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R196	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R197	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R198	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R199	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R200	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R201	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R202	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R203	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R204	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R205	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R206	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R207	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R208	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R209	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R210	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R211	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R216	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R217	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R218	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R219	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R220	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R221	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R222	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R224	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R225	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R226	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R227	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R228	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R229	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R230	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R231	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R232	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R233	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R234	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R235	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R236	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R237	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R238	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R239	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R240	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R242	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R243	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R244	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R245	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R246	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R247	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R248	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R249	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R250	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R251	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R252	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R254	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R255	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R256	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R257	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R277	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R278	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R279	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R280	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R281	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R282	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R283	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R284	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R287	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R288	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R289	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R290	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R295	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R298	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R299	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W

Symbol No.	Part No.	Part Name	Description	
R301	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R302	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R303	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R304	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R305	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R306	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R307	NRSA63J-563X	M.G.RESISTOR	56k	1/16W
R308	NRSA63J-124X	M.G.RESISTOR	120k	1/16W
R309	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R310	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R311	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R316	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R322	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R351	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R352	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R353	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R354	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R355	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R356	NRSA63J-391X	M.G.RESISTOR	390	1/16W
R357	NRSA63J-823X	M.G.RESISTOR	82k	1/16W
R358	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R359	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R360	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R361	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R387	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R388	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R389	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R390	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R391	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R392	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R393	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R394	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R395	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R401	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R403	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R404	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R408	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R409	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R410	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R411	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R412	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R508	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R509	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R511	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R512	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R515	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R516	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
C1	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C2	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C4	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C5	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C6	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C7	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C8	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C9	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C10	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C11	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C13	NEH71AM-227X	E.CAPACITOR	220	10V
C14	NEH71AM-227X	E.CAPACITOR	220	10V
C15	NBE21AM-106X	TAN.CAPACITOR	10	10V
C16	NCF21CZ-105X	CER.CAPACITOR	1	16V
C17	NDC31HJ-7R0X	CER.CAPACITOR	7p	50V
C18	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C19	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C20	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C21	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C22	NBH21CM-105X	TAN.CAPACITOR	1	16V
C23	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C24	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C25	NCB31EK-223X	CER.CAPACITOR	0.022	25V

Symbol No.	Part No.	Part Name	Description	
C26	NDC31HJ-470X	CER.CAPACITOR	47p	50V
C27	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C28	NCF21CZ-105X	CER.CAPACITOR	1	16V
C29	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C30	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C31	NDC31HJ-120X	CER.CAPACITOR	12p	50V
C41	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C42	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C43	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C46	NDC31HJ-180X	CER.CAPACITOR	18p	50V
C49	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C50	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C51	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C52	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C53	NCF21CZ-105X	CER.CAPACITOR	1	16V
C54	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C55	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C56	NBE21AM-106X	TAN.CAPACITOR	10	10V
C59	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C63	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C65	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C66	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C67	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C68	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C69	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C70	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C71	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C72	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C73	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C74	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C75	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C76	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C77	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C82	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C83	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C84	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C85	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C86	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C87	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C88	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C89	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C90	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C91	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C92	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C93	NCF21CZ-105X	CER.CAPACITOR	1	16V
C94	NBE40JM-106X	TAN.CAPACITOR	10	6.3V
C95	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C96	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C97	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C98	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C99	NCF21CZ-105X	CER.CAPACITOR	1	16V
C100	NBE40JM-106X	TAN.CAPACITOR	10	6.3V
C101	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C105	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C109	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C112	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C113	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C114	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C115	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C116	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C117	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C118	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C119	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C120	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C121	NCF21CZ-105X	CER.CAPACITOR	1	16V
C122	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C123	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C124	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C133	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C301	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C302	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C303	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C304	NCB31HK-103X	CER.CAPACITOR	0.01	50V

Symbol No.	Part No.	Part Name	Description	
C305	NCF21CZ-105X	CER.CAPACITOR	1	16V
C306	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C307	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C308	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C309	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C310	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C311	NCF21CZ-105X	CER.CAPACITOR	1	16V
C312	NCF21CZ-105X	CER.CAPACITOR	1	16V
C313	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C314	NCF21CZ-105X	CER.CAPACITOR	1	16V
C351	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C352	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C353	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C354	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C355	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C356	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C357	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C358	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C359	NBH21CM-105X	TAN.CAPACITOR	1	16V
C360	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C361	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C362	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C364	NBE40JM-106X	TAN.CAPACITOR	10	6.3V
C365	NDC31HJ-180X	CER.CAPACITOR	18p	50V
C366	NCB31HK-682X	CER.CAPACITOR	6800p	50V
C367	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C368	NBH41CM-225X	TAN.CAPACITOR	2.2	16V
C369	NBH41CM-225X	TAN.CAPACITOR	2.2	16V
C370	NBE40JM-106X	TAN.CAPACITOR	10	6.3V
C371	NBE40JM-106X	TAN.CAPACITOR	10	6.3V
C372	NCF21CZ-105X	CER.CAPACITOR	1	16V
C373	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C374	NDC31HJ-180X	CER.CAPACITOR	18p	50V
C375	NDC31HJ-180X	CER.CAPACITOR	18p	50V
C376	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C377	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C378	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C379	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C380	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C381	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C382	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C386	NBE40JM-106X	TAN.CAPACITOR	10	6.3V
C387	NCF21CZ-105X	CER.CAPACITOR	1	16V
C388	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C389	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C390	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C391	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C392	NCF21CZ-105X	CER.CAPACITOR	1	16V
C393	NCF21CZ-105X	CER.CAPACITOR	1	16V
C429	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C461	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C501	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C504	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C505	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C510	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C511	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C512	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C513	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C516	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C517	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C520	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C521	NDC31HJ-270X	CER.CAPACITOR	27p	50V
C522	NDC31HJ-270X	CER.CAPACITOR	27p	50V
L1	NQL024J-1R2X	COIL	1.2uH	
L2	NQL114K-101X	COIL	100uH	
L3	NQL114K-101X	COIL	100uH	
L4	NQL024J-1R2X	COIL	1.2uH	
L301	NQL114K-101X	COIL	100uH	
L302	NQL114K-220X	COIL	22uH	
L351	NQL114K-101X	COIL	100uH	
L352	NQL114K-101X	COIL	100uH	
LC1	PGZ01972Z	LC FILTER		

Symbol No.	Part No.	Part Name	Description
LC2	PGZ01972Z	LC FILTER	
LC3	PGZ01972Z	LC FILTER	
LC4	PGZ01972Z	LC FILTER	
LC5	PGZ01972Z	LC FILTER	
LC7	PGZ01972Z	LC FILTER	
LC10	PGZ01972Z	LC FILTER	
LC11	PGZ01972Z	LC FILTER	
LC12	PGZ01972Z	LC FILTER	
LC301	PGZ01972Z	LC FILTER	
LC351	SSV3036-12R3Y	LC FILTER	12.3MHz
LC352	PGZ01972Z	LC FILTER	
X1	PGZ02143	CRYSTAL	49.5MHz
X301	SDV0026	CRYSTAL	24.576MHz
X500	QAX0328-001X	CRYSTAL	4.9152MHz
TH1	NAD0001-103X	THERMISTOR	10k
CN1	PGZ01932-020Z	CONNECTOR	20PIN
CN2	PGZ01932-024Z	CONNECTOR	24PIN
CN4	PGZ01932-022Z	CONNECTOR	22PIN
CN6	SCV2596-028W	CONNECTOR	28PIN
CN9	QGB1211M1-80S	CONNECTOR	80PIN
CN10	PGZ01932-022Z	CONNECTOR	22PIN
CN12	PGZ01932-015Z	CONNECTOR	15PIN
TP	SSV1096-001	TEST POINT	TP1-TP355
TB	NNZ0006-001X	EARTH TERMINAL	TB1-TB6

6.3 I/O SSG BOARD ASSEMBLY PARTS LIST [0][3]

SLK1070-00B [0][3]□□□□□□

Symbol No.	Part No.	Part Name	Description
IC1	RL5C292-001	I.C.(M)	RICHO
IC4	TC74ACT541F-X	I.C.(M)	TOSHIBA
IC5	EPM064-15-003	I.C.(M)	ALTERA
IC6	TC74LCX244F-X	I.C.(M)	TOSHIBA
IC7	DS90C032TM-X	I.C.(M)	NATIONAL SEMICO
IC8	DS90C032TM-X	I.C.(M)	NATIONAL SEMICO
IC9	MC14577CF-X	I.C.(M)	MOTOROLA
IC10	JCL0024	I.C.(M)	JVC
IC11	MM74HC4046M-X	I.C.(M)	NATIONAL SEMICO
IC12	TC4W53F-X	I.C.(M)	TOSHIBA
IC304	TK16031AMTL	I.C.(M)	TOKO DENSHI
IC307	UPC4082G2-X	I.C.(M)	NEC
IC308	LM6361M-X	I.C.(M)	TEXAS
IC310	TC4W53F-X	I.C.(M)	TOSHIBA
IC312	TK16031AMTL	I.C.(M)	TOKO DENSHI
IC315	UPC4082G2-X	I.C.(M)	NEC
IC316	LM6361M-X	I.C.(M)	TEXAS
IC317	TC4W53F-X	I.C.(M)	TOSHIBA
IC321	UPC4082G2-X	I.C.(M)	NEC
IC322	LM6361M-X	I.C.(M)	TEXAS
IC323	TC4W53F-X	I.C.(M)	TOSHIBA
IC328	EL4583CS-X	I.C.(M)	ELANTEC
IC329	TC7W04F-X	I.C.(M)	TOSHIBA
IC330	TC74VHC221AF-X	I.C.(M)	TOSHIBA
IC601	UPC78L05T-X	I.C.(M)	NEC
IC602	CXD1175AM-X	I.C.(M)	SONY
IC603	UPC78L05T-X	I.C.(M)	NEC
IC604	CXD1175AM-X	I.C.(M)	SONY
IC605	UPC78L05T-X	I.C.(M)	NEC
IC606	CXD1175AM-X	I.C.(M)	SONY
IC607	JCL0026	I.C.(M)	JVC
IC612	DS90C031TM-X	I.C.(M)	NATIONAL SEMICO
IC613	DS90C031TM-X	I.C.(M)	NATIONAL SEMICO
IC614	TC74ACT541F-X	I.C.(M)	TOSHIBA
IC617	DS90C031TM-X	I.C.(M)	NATIONAL SEMICO
IC618	AN77L03M-X	I.C.(M)	MATSUSHITA
IC619	TC74VHC541F-X	I.C.(M)	TOSHIBA
IC620	UPC2384GA	I.C.(M)	NEC
IC622	UPC78L05T-X	I.C.(M)	NEC
IC624	UPC4082G2-X	I.C.(M)	NEC
IC625	TC74VHC221AF-X	I.C.(M)	TOSHIBA
Q1	2SC4081/QR/-X	TRANSISTOR	ROHM
Q2	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q3	2SC4081/QR/-X	TRANSISTOR	ROHM
Q5	2SC4081/QR/-X	TRANSISTOR	ROHM
Q6	2SC4081/QR/-X	TRANSISTOR	ROHM
Q7	2SC4081/QR/-X	TRANSISTOR	ROHM
Q8	2SC4081/QR/-X	TRANSISTOR	ROHM
Q9	2SC4081/QR/-X	TRANSISTOR	ROHM
Q10	2SC4081/QR/-X	TRANSISTOR	ROHM
Q11	2SC4081/QR/-X	TRANSISTOR	ROHM
Q12	2SC4081/QR/-X	TRANSISTOR	ROHM
Q13	DTC124EUA-X	TRANSISTOR	ROHM
Q301	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q302	2SC4081/QR/-X	TRANSISTOR	ROHM
Q304	2SC4081/QR/-X	TRANSISTOR	ROHM
Q305	2SC4081/QR/-X	TRANSISTOR	ROHM
Q306	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q307	2SC4081/QR/-X	TRANSISTOR	ROHM
Q308	2SC4081/QR/-X	TRANSISTOR	ROHM
Q309	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q310	2SC4081/QR/-X	TRANSISTOR	ROHM
Q312	2SC4081/QR/-X	TRANSISTOR	ROHM
Q313	2SC4081/QR/-X	TRANSISTOR	ROHM
Q314	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q315	2SC4081/QR/-X	TRANSISTOR	ROHM
Q316	2SC4081/QR/-X	TRANSISTOR	ROHM
Q317	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q318	2SC4081/QR/-X	TRANSISTOR	ROHM
Q319	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q320	2SC4081/QR/-X	TRANSISTOR	ROHM

Symbol No.	Part No.	Part Name	Description	
Q321	2SC4081/QR/-X	TRANSISTOR	ROHM	
Q322	2SA1576A/QRS/-X	TRANSISTOR	ROHM	
Q323	2SC4081/QR/-X	TRANSISTOR	ROHM	
Q325	2SC4081/QR/-X	TRANSISTOR	ROHM	
Q326	2SC4081/QR/-X	TRANSISTOR	ROHM	
Q327	2SC4081/QR/-X	TRANSISTOR	ROHM	
D1	DAN202U-X	DIODE	ROHM	
D2	DAN202U-X	DIODE	ROHM	
D3	DAN202U-X	DIODE	ROHM	
D4	DAN202U-X	DIODE	ROHM	
D5	DAN202U-X	DIODE	ROHM	
D303	DAP202K-X	DIODE	ROHM	
D601	DAP202K-X	DIODE	ROHM	
D602	DAN202K-X	DIODE	ROHM	
D603	DAP202K-X	DIODE	ROHM	
D604	DAN202K-X	DIODE	ROHM	
D605	DAP202K-X	DIODE	ROHM	
D606	DAN202K-X	DIODE	ROHM	
D607	DA204U-X	DIODE	ROHM	
D608	DA204U-X	DIODE	ROHM	
R1	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R2	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R3	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R4	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R5	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R6	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R7	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R8	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R9	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R10	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R11	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R12	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R13	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R14	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R15	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R16	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R17	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R18	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R19	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R20	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R21	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R22	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R23	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R24	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R25	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R26	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R27	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R28	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R29	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R30	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R32	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R33	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R34	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R35	NRSA63J-750X	M.G.RESISTOR	75	1/16W
R36	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R37	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R38	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R39	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R41	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R42	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R43	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R44	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R45	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R46	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R47	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R48	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R49	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R50	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R51	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R53	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W

Symbol No.	Part No.	Part Name	Description	
R54	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R55	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R58	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R59	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R60	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R61	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R62	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R63	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R64	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R65	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R66	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R68	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R69	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R71	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R74	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R75	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R76	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R77	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R78	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R79	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R80	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R81	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R82	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R83	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R84	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R85	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R86	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R87	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R88	NRSA63J-391X	M.G.RESISTOR	390	1/16W
R89	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R90	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R91	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R92	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R93	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R94	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R95	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R96	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R97	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R98	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R100	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R101	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R102	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R103	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R112	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R113	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R114	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R115	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R116	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R117	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R118	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R119	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R120	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R121	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R122	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R123	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R124	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R125	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R126	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R127	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R128	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R129	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R130	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R131	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R132	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R133	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R134	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R135	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R136	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R137	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R138	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R139	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R140	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R141	NRSA63J-101X	M.G.RESISTOR	100	1/16W

Symbol No.	Part No.	Part Name	Description	
R142	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R143	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R145	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R148	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R150	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R151	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R153	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R154	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R155	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R156	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R157	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R158	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R159	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R160	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R161	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R162	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R163	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R164	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R165	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R167	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R193	NRSA63J-564X	M.G.RESISTOR	560k	1/16W
R194	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R195	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R196	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R197	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R198	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R199	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R200	NRSA63J-183X	M.G.RESISTOR	18k	1/16W
R201	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R202	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R203	NRSA63J-750X	M.G.RESISTOR	75	1/16W
R204	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R205	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R206	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R207	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R208	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R209	NRSA63J-271X	M.G.RESISTOR	270	1/16W
R210	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R211	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R213	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R214	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R219	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R220	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R221	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R222	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R223	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R224	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R225	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R226	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R227	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R228	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R229	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R230	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R231	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R232	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R233	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R234	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R235	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R237	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R238	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R239	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R240	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R243	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R257	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R258	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R259	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R260	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R261	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R262	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R263	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R264	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R265	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R266	NRSA63J-101X	M.G.RESISTOR	100	1/16W

Symbol No.	Part No.	Part Name	Description	
R272	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R273	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R274	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R275	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R276	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R277	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R278	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R279	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R280	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R282	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R301	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R303	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R304	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R305	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R306	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R307	NRSA63J-751X	M.G.RESISTOR	750	1/16W
R308	NRSA63J-183X	M.G.RESISTOR	18k	1/16W
R309	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R310	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R311	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R314	NRSA63J-183X	M.G.RESISTOR	18k	1/16W
R315	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R316	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R317	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R318	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R319	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R320	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R321	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R322	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R323	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R324	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R325	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R326	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R327	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R328	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R329	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R330	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R331	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R332	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R333	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R335	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R336	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R337	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R338	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R339	NRSA63J-751X	M.G.RESISTOR	750	1/16W
R340	NRSA63J-183X	M.G.RESISTOR	18k	1/16W
R341	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R342	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R343	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R346	NRSA63J-391X	M.G.RESISTOR	390	1/16W
R347	NRSA63J-183X	M.G.RESISTOR	18k	1/16W
R348	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R349	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R350	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R351	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R352	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R353	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R354	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R355	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R356	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R357	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R358	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R359	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R360	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R361	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R362	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R363	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R364	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R365	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R366	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R367	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R368	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R370	NRSA63J-393X	M.G.RESISTOR	39k	1/16W

Symbol No.	Part No.	Part Name	Description	
R371	NRSA63J-123X	M.G.RESISTOR	12k	1/16W
R372	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R373	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R374	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R375	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R376	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R377	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R378	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R379	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R380	NRSA63J-751X	M.G.RESISTOR	750	1/16W
R382	NRSA63J-391X	M.G.RESISTOR	390	1/16W
R383	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R384	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R385	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R386	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R387	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R388	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R389	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R390	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R391	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R392	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R393	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R394	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R395	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R396	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R397	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R399	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R401	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R402	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R403	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R404	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R405	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R414	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R415	NRSA63J-123X	M.G.RESISTOR	12k	1/16W
R416	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R420	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R421	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R427	NRSA63J-123X	M.G.RESISTOR	12k	1/16W
R428	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R429	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R430	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R432	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R433	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R434	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R435	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R436	NRSA63J-823X	M.G.RESISTOR	82k	1/16W
R437	NRSA63J-684X	M.G.RESISTOR	680k	1/16W
R438	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R439	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R440	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R451	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R452	NRSA63J-391X	M.G.RESISTOR	390	1/16W
R453	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R454	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R455	NRSA63J-752X	M.G.RESISTOR	7.5k	1/16W
R456	NRSA63J-752X	M.G.RESISTOR	7.5k	1/16W
R457	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R601	NRSA63J-750X	M.G.RESISTOR	75	1/16W
R603	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R604	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R606	NRSA63J-750X	M.G.RESISTOR	75	1/16W
R608	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R609	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R611	NRSA63J-750X	M.G.RESISTOR	75	1/16W
R613	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R614	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R616	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R617	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R618	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R619	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R620	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R621	NRSA63J-101X	M.G.RESISTOR	100	1/16W

Symbol No.	Part No.	Part Name	Description	
R623	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R624	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R625	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R629	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R633	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R634	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R638	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R642	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R643	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R645	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R646	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R647	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R649	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R650	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R655	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R656	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R657	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R658	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R659	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R660	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R661	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R662	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R663	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R665	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R666	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R667	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R668	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R669	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R671	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R672	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R673	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R674	NRSA63J-912X	M.G.RESISTOR	9.1k	1/16W
R676	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R677	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R678	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R679	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R680	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R681	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R682	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R684	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R685	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R686	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R687	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R700	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R702	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R704	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R705	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
VR1	NVP1415-102X	TRIM.RESISTOR	1k	V-OUT LEV
VR3	NVP1415-202X	TRIM.RESISTOR	2k	H PHASE
VR301	NVP1415-202X	TRIM.RESISTOR	2k	R LEV
VR302	NVP1415-202X	TRIM.RESISTOR	2k	B LEV
VR303	NVP1415-501X	TRIM.RESISTOR	500	Y LEV
VR304	NVP1415-103X	TRIM.RESISTOR	10k	B DL
VR307	NVP1415-103X	TRIM.RESISTOR	10k	R DL
VR601	NVP1415-202X	TRIM.RESISTOR	2k	CP Y
VR602	NVP1415-102X	TRIM.RESISTOR	1k	CP R
VR603	NVP1415-102X	TRIM.RESISTOR	1k	CP B
VR604	NVP1415-202X	TRIM.RESISTOR	2k	PS DC
C1	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C2	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C4	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C6	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C7	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C8	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C9	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C10	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C11	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C12	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C13	NCS31HJ-471X	CER.CAPACITOR	470p	50V

Symbol No.	Part No.	Part Name	Description	
C14	NCS31HJ-471X	CER.CAPACITOR	470p	50V
C15	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C16	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C17	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C18	NEH91AM-336X	E.CAPACITOR	33	10V
C19	NEH91AM-336X	E.CAPACITOR	33	10V
C20	NEH91AM-336X	E.CAPACITOR	33	10V
C21	NEH91AM-336X	E.CAPACITOR	33	10V
C22	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C23	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C24	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C25	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C26	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C27	NCS31HJ-5R0X	CER.CAPACITOR	5p	50V
C28	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C29	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C30	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C31	NEH91AM-336X	E.CAPACITOR	33	10V
C32	NEH91AM-336X	E.CAPACITOR	33	10V
C33	NEH91AM-336X	E.CAPACITOR	33	10V
C34	NCS31HJ-561X	CER.CAPACITOR	560p	50V
C35	NEH91AM-336X	E.CAPACITOR	33	10V
C37	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C38	NEH91CM-476X	E.CAPACITOR	47	16V
C39	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C40	QETA1AM-108	E.CAPACITOR	1000	10V
C41	NEH71AM-107X	E.CAPACITOR	100	10V
C42	NEH91AM-336X	E.CAPACITOR	33	10V
C44	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C45	NEH71AM-107X	E.CAPACITOR	100	10V
C46	NEH91AM-336X	E.CAPACITOR	33	10V
C47	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C48	NEH71AM-107X	E.CAPACITOR	100	10V
C49	NEH71AM-107X	E.CAPACITOR	100	10V
C50	NEH71AM-107X	E.CAPACITOR	100	10V
C51	NEH71AM-107X	E.CAPACITOR	100	10V
C52	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C53	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C54	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C55	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C56	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C57	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C58	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C59	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C60	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C61	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C62	NEH71AM-107X	E.CAPACITOR	100	10V
C63	NEH91AM-336X	E.CAPACITOR	33	10V
C65	NCS31HJ-471X	CER.CAPACITOR	470p	50V
C67	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C301	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C302	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C303	NEH91CM-476X	E.CAPACITOR	47	16V
C304	NEH71AM-107X	E.CAPACITOR	100	10V
C310	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C311	NEH91CM-476X	E.CAPACITOR	47	16V
C312	NEH71AM-107X	E.CAPACITOR	100	10V
C313	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C314	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C315	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C316	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C317	QETA1AM-227	E.CAPACITOR	220	10V
C318	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C319	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C320	NEH91CM-476X	E.CAPACITOR	47	16V
C322	NCS31HJ-820X	CER.CAPACITOR	82p	50V
C323	NEH71AM-107X	E.CAPACITOR	100	10V
C324	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C325	NFV41HJ-102X	FILM CAPACITOR	1000p	50V
C326	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C327	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C328	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C329	NEH71AM-107X	E.CAPACITOR	100	10V

Symbol No.	Part No.	Part Name	Description	
C333	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C335	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C336	NEH91CM-476X	E.CAPACITOR	47	16V
C337	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C338	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C339	NEH71AM-107X	E.CAPACITOR	100	10V
C344	NEH71AM-107X	E.CAPACITOR	100	10V
C345	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C346	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C347	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C348	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C349	QER41AM-227	E.CAPACITOR	220	10V
C350	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C351	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C352	NEH91CM-476X	E.CAPACITOR	47	16V
C354	NCS31HJ-820X	CER.CAPACITOR	82p	50V
C355	NEH71AM-107X	E.CAPACITOR	100	10V
C356	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C357	NFV41HJ-102X	FILM CAPACITOR	1000p	50V
C358	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C359	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C360	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C361	NEH71AM-107X	E.CAPACITOR	100	10V
C365	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C366	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C367	NEH71AM-107X	E.CAPACITOR	100	10V
C372	NEH71AM-107X	E.CAPACITOR	100	10V
C373	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C374	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C375	QETA1AM-227	E.CAPACITOR	220	10V
C376	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C377	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C378	NEH91CM-476X	E.CAPACITOR	47	16V
C379	NEH90JM-336X	E.CAPACITOR	33	6.3V
C381	NEH71AM-107X	E.CAPACITOR	100	10V
C382	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C383	NFV41HJ-102X	FILM CAPACITOR	1000p	50V
C384	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C385	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C386	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C387	NEH71AM-107X	E.CAPACITOR	100	10V
C388	NCS31HJ-100X	CER.CAPACITOR	10p	50V
C391	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C392	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C393	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C399	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C401	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C403	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C404	NEH91CM-476X	E.CAPACITOR	47	16V
C406	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C407	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C408	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C409	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C410	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C411	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C412	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C414	NCS31HJ-331X	CER.CAPACITOR	330p	50V
C415	NCS31HJ-391X	CER.CAPACITOR	390p	50V
C416	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C421	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C601	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C602	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C603	NEH91CM-476X	E.CAPACITOR	47	16V
C605	NEH91EM-475X	E.CAPACITOR	4.7	25V
C606	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C607	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C608	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C609	NCS31HJ-181X	CER.CAPACITOR	180p	50V
C610	NEH71AM-107X	E.CAPACITOR	100	10V
C611	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C612	NEH91EM-475X	E.CAPACITOR	4.7	25V
C613	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C614	NCB31HK-103X	CER.CAPACITOR	0.01	50V

Symbol No.	Part No.	Part Name	Description	
C615	NEH91CM-476X	E.CAPACITOR	47	16V
C617	NEH91EM-475X	E.CAPACITOR	4.7	25V
C618	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C619	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C620	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C621	NCS31HJ-151X	CER.CAPACITOR	150p	50V
C622	NEH71AM-107X	E.CAPACITOR	100	10V
C623	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C624	NEH91EM-475X	E.CAPACITOR	4.7	25V
C625	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C626	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C627	NEH91CM-476X	E.CAPACITOR	47	16V
C629	NEH91EM-475X	E.CAPACITOR	4.7	25V
C630	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C631	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C632	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C633	NCS31HJ-151X	CER.CAPACITOR	150p	50V
C634	NEH71AM-107X	E.CAPACITOR	100	10V
C635	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C636	NEH91EM-475X	E.CAPACITOR	4.7	25V
C637	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C638	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C639	NEH91AM-336X	E.CAPACITOR	33	10V
C640	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C641	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C642	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C643	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C644	NEH91HM-105X	E.CAPACITOR	1	50V
C645	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C646	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C647	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C648	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C649	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C650	NEH91AM-336X	E.CAPACITOR	33	10V
C654	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C655	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C656	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C657	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C658	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C659	NEH91AM-336X	E.CAPACITOR	33	10V
C660	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C663	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C664	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C665	NEH91CM-476X	E.CAPACITOR	47	16V
C667	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C668	NEH91HM-474X	E.CAPACITOR	0.47	50V
C669	NCS31HJ-220X	CER.CAPACITOR	22p	50V
C670	NCS31HJ-100X	CER.CAPACITOR	10p	50V
C671	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C672	NCS31HJ-100X	CER.CAPACITOR	10p	50V
C673	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C674	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C675	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C676	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C677	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C678	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C679	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C680	NEH91CM-476X	E.CAPACITOR	47	16V
C681	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C682	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C683	NEH91CM-476X	E.CAPACITOR	47	16V
C684	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C685	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C686	NEH91CM-476X	E.CAPACITOR	47	16V
C687	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C688	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C689	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C690	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C691	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C692	NCS31HJ-470X	CER.CAPACITOR	47p	50V
C693	NCS31HJ-820X	CER.CAPACITOR	82p	50V
C694	NCB31HK-103X	CER.CAPACITOR	0.01	50V

Symbol No.	Part No.	Part Name	Description
C695	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C696	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C697	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C698	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C699	NEH91AM-336X	E.CAPACITOR	33 10V
C700	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C701	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C702	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C703	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C704	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C705	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C706	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C800	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C801	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C802	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C803	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C804	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C805	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C806	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C810	NCB31HK-103X	CER.CAPACITOR	0.01 50V
C812	NEH71AM-107X	E.CAPACITOR	100 10V
L2	NQL024J-1R8X	COIL	1.8uH
L4	NQL024J-1R8X	COIL	1.8uH
LC1	PGZ01972Z	LC FILTER	
LC2	PGZ01972Z	LC FILTER	
LC3	PGZ01972Z	LC FILTER	
LC4	PU48530-821J	COIL	820uH
LC5	PU48530-821J	COIL	820uH
LC6	PU53223-221G	COIL	220uH
LC7	PGZ01972Z	LC FILTER	
LC8	PGZ01972Z	LC FILTER	
LC9	PGZ01972Z	LC FILTER	
LC10	PGZ01972Z	LC FILTER	
LC11	PGZ01972Z	LC FILTER	
LC12	PGZ01972Z	LC FILTER	
LC13	PGZ01972Z	LC FILTER	
LC14	PGZ01972Z	LC FILTER	
LC15	PGZ01972Z	LC FILTER	
LC16	PGZ01972Z	LC FILTER	
LC17	PGZ01972Z	LC FILTER	
LC18	PGZ01972Z	LC FILTER	
LC19	PGZ01972Z	LC FILTER	
LC20	PGZ01972Z	LC FILTER	
LC21	PGZ01972Z	LC FILTER	
LC26	PGZ01972Z	LC FILTER	
LC27	PGZ01972Z	LC FILTER	
LC28	PGZ01972Z	LC FILTER	
LC601	PGZ01972Z	LC FILTER	
LC602	PGZ01972Z	LC FILTER	
LC603	PGZ01972Z	LC FILTER	
LC604	PGZ01972Z	LC FILTER	
LC605	PGZ01972Z	LC FILTER	
LC606	PGZ01972Z	LC FILTER	
LC607	PGZ01972Z	LC FILTER	
DL301	PGZ02184-Z	DELAY LINE	
DL302	PGZ02184-Z	DELAY LINE	
X601	PGZ02178	CRYSTAL	54MHz
CN1	QGB1211L1-80S	CONNECTOR	80PIN
CN2	PGZ01932-020Z	CONNECTOR	20PIN
CN3	PGZ01932-008Z	CONNECTOR	8PIN
CN4	PGZ02149-103Z	CONNECTOR	3PIN
TP	SSV1096-001	TEST POINT	TP1-TP683

Symbol No.	Part No.	Part Name	Description
FL29	NQR0184-001X	FL FILTER	
FL301	PGZ02181	FL FILTER	
FL302	PGZ02181	FL FILTER	
FL303	PELN0320	FL FILTER	
K1	PGZ00627Z	FERRATE BEADS	
K3	PGZ00627Z	FERRATE BEADS	
K4	PGZ00627Z	FERRATE BEADS	
K601	PGZ00627Z	FERRATE BEADS	
K602	PGZ00627Z	FERRATE BEADS	
K603	PGZ00627Z	FERRATE BEADS	
K604	PGZ00627Z	FERRATE BEADS	
TB	PGZ02228	EARTH LUG	TB1-TB4

6.4 RFP BOARD ASSEMBLY PARTS LIST [0][4]

SLK1045-01A [0][4]□□□□□□

Symbol No.	Part No.	Part Name	Description
IC301	AN3740FAP	I.C.(M)	MATSUSHITA
IC302	UPC4074G2-X	I.C.(M)	NEC
IC401	AN3740FAP	I.C.(M)	MATSUSHITA
IC402	UPC4074G2-X	I.C.(M)	NEC
IC501	DS90C032TM-X	I.C.(M)	NATIONAL SEMICO
IC502	DS90C031TM-X	I.C.(M)	NATIONAL SEMICO
IC503	TC7W04F-X	I.C.(M)	TOSHIBA
IC505	MC74HC08AF-X	I.C.(M)	MOTOROLA
IC506	MC74HC74AF-X	I.C.(M)	MOTOROLA
IC507	MC74HC08AF-X	I.C.(M)	MOTOROLA
IC801	LM2940S-5.0-W	I.C.(M)	NATIONAL SEMICO
IC802	LM2990S-5.0-W	I.C.(M)	NATIONAL SEMICO
Q101	2SC3735/4-5/-X	TRANSISTOR	NEC
Q102	2SC3735/4-5/-X	TRANSISTOR	NEC
Q103	2SA1462/3-4/-X	TRANSISTOR	NEC
Q104	2SC3735/4-5/-X	TRANSISTOR	NEC
Q105	2SC3735/4-5/-X	TRANSISTOR	NEC
Q106	2SC3735/4-5/-X	TRANSISTOR	NEC
Q107	2SC3735/4-5/-X	TRANSISTOR	NEC
Q108	2SC3735/4-5/-X	TRANSISTOR	NEC
Q109	DTC114EUA-X	TRANSISTOR	ROHM
Q110	DTC114EUA-X	TRANSISTOR	ROHM
Q111	2SC3735/4-5/-X	TRANSISTOR	NEC
Q201	2SC3735/4-5/-X	TRANSISTOR	NEC
Q202	2SC3735/4-5/-X	TRANSISTOR	NEC
Q203	2SA1462/3-4/-X	TRANSISTOR	NEC
Q204	2SC3735/4-5/-X	TRANSISTOR	NEC
Q205	2SC3735/4-5/-X	TRANSISTOR	NEC
Q206	2SC3735/4-5/-X	TRANSISTOR	NEC
Q207	2SC3735/4-5/-X	TRANSISTOR	NEC
Q208	2SC3735/4-5/-X	TRANSISTOR	NEC
Q209	DTC114EUA-X	TRANSISTOR	ROHM
Q210	DTC114EUA-X	TRANSISTOR	ROHM
Q211	2SC3735/4-5/-X	TRANSISTOR	NEC
Q301	2SA1577/QR/-X	TRANSISTOR	ROHM
Q303	DTC114EUA-X	TRANSISTOR	ROHM
Q305	2SC3735/4-5/-X	TRANSISTOR	NEC
Q306	2SA1462/3-4/-X	TRANSISTOR	NEC
Q307	2SC3735/4-5/-X	TRANSISTOR	NEC
Q308	2SC3735/4-5/-X	TRANSISTOR	NEC
Q309	2SC3735/4-5/-X	TRANSISTOR	NEC
Q401	2SA1577/QR/-X	TRANSISTOR	ROHM
Q403	DTC114EUA-X	TRANSISTOR	ROHM
Q405	2SC3735/4-5/-X	TRANSISTOR	NEC
Q406	2SA1462/3-4/-X	TRANSISTOR	NEC
Q407	2SC3735/4-5/-X	TRANSISTOR	NEC
Q408	2SC3735/4-5/-X	TRANSISTOR	NEC
Q409	2SC3735/4-5/-X	TRANSISTOR	NEC
Q501	2SA1577/QR/-X	TRANSISTOR	ROHM
Q502	DTC144EUA-X	TRANSISTOR	ROHM
Q801	2SB1073/PQ/-X	TRANSISTOR	MATSUSHITA
Q802	2SC4097/QR/-X	TRANSISTOR	ROHM
Q803	2SC4097/QR/-X	TRANSISTOR	ROHM
Q804	DTA114EUA-X	TRANSISTOR	ROHM
Q805	DTC114EUA-X	TRANSISTOR	ROHM
Q806	2SA1577/QR/-X	TRANSISTOR	ROHM
R101	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R102	NRSA63J-183X	M.G.RESISTOR	18k 1/16W
R103	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R104	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R105	NRSA63J-331X	M.G.RESISTOR	330 1/16W
R106	NRSA63J-471X	M.G.RESISTOR	470 1/16W
R107	NRSA63J-181X	M.G.RESISTOR	180 1/16W
R108	NRSA63J-470X	M.G.RESISTOR	47 1/16W
R109	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R110	NRSA63J-181X	M.G.RESISTOR	180 1/16W
R111	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R112	NRSA63J-220X	M.G.RESISTOR	22 1/16W
R113	NRSA63J-333X	M.G.RESISTOR	33k 1/16W
R114	NRSA63J-223X	M.G.RESISTOR	22k 1/16W

Symbol No.	Part No.	Part Name	Description
R115	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R116	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R117	NRSA63J-220X	M.G.RESISTOR	22 1/16W
R118	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R119	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R120	NRSA63J-822X	M.G.RESISTOR	8.2k 1/16W
R121	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R122	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R123	NRSA63J-821X	M.G.RESISTOR	820 1/16W
R124	NRSA63J-821X	M.G.RESISTOR	820 1/16W
R125	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R126	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R127	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R128	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R129	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R130	NRSA63J-220X	M.G.RESISTOR	22 1/16W
R136	NRSA63J-331X	M.G.RESISTOR	330 1/16W
R137	NRSA63J-333X	M.G.RESISTOR	33k 1/16W
R138	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R139	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R142	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R201	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R202	NRSA63J-183X	M.G.RESISTOR	18k 1/16W
R203	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R204	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R205	NRSA63J-681X	M.G.RESISTOR	680 1/16W
R206	NRSA63J-471X	M.G.RESISTOR	470 1/16W
R207	NRSA63J-181X	M.G.RESISTOR	180 1/16W
R208	NRSA63J-470X	M.G.RESISTOR	47 1/16W
R209	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R210	NRSA63J-181X	M.G.RESISTOR	180 1/16W
R211	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R212	NRSA63J-220X	M.G.RESISTOR	22 1/16W
R213	NRSA63J-333X	M.G.RESISTOR	33k 1/16W
R214	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R215	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R216	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R217	NRSA63J-220X	M.G.RESISTOR	22 1/16W
R218	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R219	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R220	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R221	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R222	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R223	NRSA63J-821X	M.G.RESISTOR	820 1/16W
R224	NRSA63J-471X	M.G.RESISTOR	470 1/16W
R225	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R226	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R227	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R228	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R229	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R230	NRSA63J-220X	M.G.RESISTOR	22 1/16W
R233	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R236	NRSA63J-470X	M.G.RESISTOR	47 1/16W
R237	NRSA63J-333X	M.G.RESISTOR	33k 1/16W
R238	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R239	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R242	NRSA63J-100X	M.G.RESISTOR	10 1/16W
R301	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R302	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R315	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R316	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R318	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R319	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R320	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R322	NRSA63J-153X	M.G.RESISTOR	15k 1/16W
R323	NRSA63J-152X	M.G.RESISTOR	1.5k 1/16W
R324	NRSA63J-121X	M.G.RESISTOR	120 1/16W
R325	NRSA63J-221X	M.G.RESISTOR	220 1/16W
R326	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R328	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R329	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R330	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R333	NRSA63J-822X	M.G.RESISTOR	8.2k 1/16W

Symbol No.	Part No.	Part Name	Description	
R334	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R337	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R338	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R341	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R342	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R343	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R344	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R345	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R348	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R349	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R350	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R351	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R352	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R353	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R354	NRSA63J-220X	M.G.RESISTOR	22	1/16W
R355	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R356	NRSA63J-390X	M.G.RESISTOR	39	1/16W
R357	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R358	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R359	NRSA63J-151X	M.G.RESISTOR	150	1/16W
R361	NRSA63J-151X	M.G.RESISTOR	150	1/16W
R362	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R363	NRSA63J-181X	M.G.RESISTOR	180	1/16W
R364	NRSA63J-151X	M.G.RESISTOR	150	1/16W
R365	NRSA63J-181X	M.G.RESISTOR	180	1/16W
R366	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R367	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R368	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R369	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R370	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R371	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R372	NRSA63J-680X	M.G.RESISTOR	68	1/16W
R373	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R376	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R377	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R378	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R379	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R380	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R381	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R382	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R383	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R385	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R386	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R387	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R389	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R390	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R401	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R402	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R415	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R416	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R418	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R419	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R420	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R422	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R423	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R424	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R425	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R426	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R428	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R429	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R430	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R433	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R434	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R437	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R438	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R441	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R442	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R443	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R444	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R445	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R448	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R449	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R450	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W

Symbol No.	Part No.	Part Name	Description	
R451	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R452	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R453	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R454	NRSA63J-220X	M.G.RESISTOR	22	1/16W
R455	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R456	NRSA63J-390X	M.G.RESISTOR	39	1/16W
R457	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R458	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R459	NRSA63J-151X	M.G.RESISTOR	150	1/16W
R461	NRSA63J-151X	M.G.RESISTOR	150	1/16W
R462	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R463	NRSA63J-181X	M.G.RESISTOR	180	1/16W
R464	NRSA63J-151X	M.G.RESISTOR	150	1/16W
R465	NRSA63J-181X	M.G.RESISTOR	180	1/16W
R466	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R467	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R468	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R469	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R470	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R471	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R472	NRSA63J-680X	M.G.RESISTOR	68	1/16W
R473	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R476	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R477	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R478	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R479	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R480	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R481	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R482	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R483	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R485	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R486	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R487	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R489	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R490	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R501	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R502	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R503	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R504	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R505	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R506	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R507	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R508	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R509	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R510	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R511	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R512	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R513	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R514	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R515	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R516	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R517	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R518	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R519	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R520	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R521	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R522	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R523	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R524	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R525	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R526	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R527	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R533	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R536	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R537	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R538	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R539	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R546	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R547	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R548	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R549	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R550	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R551	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W

Symbol No.	Part No.	Part Name	Description	
R554	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R555	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R556	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R557	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R558	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R559	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R560	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R561	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R562	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R563	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R564	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R565	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R566	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R567	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R568	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R569	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R570	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R571	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R801	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R802	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R803	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R804	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R805	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R806	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R807	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R808	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R809	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R810	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R811	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R812	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R813	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
VR101	NVP1415-501X	TRIM.RESISTOR	500	EQ1 LEVEL
VR102	NVP1415-501X	TRIM.RESISTOR	500	RF1 LEVEL
VR201	NVP1415-501X	TRIM.RESISTOR	500	EQ2 LEVEL
VR202	NVP1415-501X	TRIM.RESISTOR	500	RF2 LEVEL
VR305	NVP1415-103X	TRIM.RESISTOR	10k	VCO FREQ
VR306	NVP1415-103X	TRIM.RESISTOR	10k	LAT TIMING
VR307	NVP1415-103X	TRIM.RESISTOR	10k	SLICE LEVEL
VR308	NVP1415-103X	TRIM.RESISTOR	10k	ERR TIMING
VR309	NVP1415-103X	TRIM.RESISTOR	10k	PRE EQ PH
VR310	NVP1415-103X	TRIM.RESISTOR	10k	PRE EQ AMP
VR311	NVP1415-102X	TRIM.RESISTOR	1k	SUB VOL.1
VR312	NVP1415-201X	TRIM.RESISTOR	200	DIP ADJ.1
VR405	NVP1415-103X	TRIM.RESISTOR	10k	VCO FREQ
VR406	NVP1415-103X	TRIM.RESISTOR	10k	LAT TIMING
VR407	NVP1415-103X	TRIM.RESISTOR	10k	SLICE LEVEL
VR408	NVP1415-103X	TRIM.RESISTOR	10k	ERR TIMING
VR409	NVP1415-103X	TRIM.RESISTOR	10k	PRE EQ PH
VR410	NVP1415-103X	TRIM.RESISTOR	10k	PRE EQ AMP
VR411	NVP1415-102X	TRIM.RESISTOR	1k	SUB VOL.
VR412	NVP1415-201X	TRIM.RESISTOR	200	DIP ADJ.2
C101	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C102	NBE41CM-106X	TAN.CAPACITOR	10	16V
C103	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C104	NBE41CM-106X	TAN.CAPACITOR	10	16V
C105	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C106	NDC31HJ-560X	CER.CAPACITOR	56p	50V
C107	NDC31HJ-220X	CER.CAPACITOR	22p	50V
C108	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C109	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C110	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C111	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C112	NBE41CM-106X	TAN.CAPACITOR	10	16V
C113	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C114	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C115	NBE41CM-106X	TAN.CAPACITOR	10	16V
C116	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C117	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C118	NBE41CM-106X	TAN.CAPACITOR	10	16V
C119	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C120	NCB31HK-103X	CER.CAPACITOR	0.01	50V

Symbol No.	Part No.	Part Name	Description	
C121	NBE41CM-106X	TAN.CAPACITOR	10	16V
C122	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C123	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C124	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C127	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C201	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C202	NBE41CM-106X	TAN.CAPACITOR	10	16V
C203	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C204	NBE41CM-106X	TAN.CAPACITOR	10	16V
C205	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C206	NDC31HJ-390X	CER.CAPACITOR	39p	50V
C207	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C208	NDC31HJ-220X	CER.CAPACITOR	22p	50V
C209	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C210	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C211	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C212	NBE41CM-106X	TAN.CAPACITOR	10	16V
C213	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C214	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C215	NBE41CM-106X	TAN.CAPACITOR	10	16V
C216	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C217	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C218	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C219	NBE41CM-106X	TAN.CAPACITOR	10	16V
C220	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C221	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C222	NBE41CM-106X	TAN.CAPACITOR	10	16V
C223	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C224	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C227	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C301	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C302	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C303	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C304	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C305	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C306	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C307	NCB21EK-104X	CER.CAPACITOR	0.1	50V
C308	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C309	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C313	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C314	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C315	NCS31HJ-331X	CER.CAPACITOR	330p	50V
C316	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C317	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C318	NCB31HK-152X	CER.CAPACITOR	1500p	50V
C319	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C320	NRSA63J-471X	M.G.RESISTOR	470	1/16W
C321	NBE21AM-106X	TAN.CAPACITOR	10	10V
C322	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C327	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C329	NCS31HJ-471X	CER.CAPACITOR	470p	50V
C330	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C331	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C332	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C333	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C334	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C335	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C336	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C337	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C338	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C339	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C340	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C341	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C342	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C343	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C344	NBE21EM-105X	TAN.CAPACITOR	1	25V
C345	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C346	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C347	NBE21AM-106X	TAN.CAPACITOR	10	10V
C348	NBE21AM-106X	TAN.CAPACITOR	10	10V
C349	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C350	NBE21AM-106X	TAN.CAPACITOR	10	10V
C355	NCB11AK-225	CER.CAPACITOR	2.2	16V

Symbol No.	Part No.	Part Name	Description	
C356	QRSA08J-471	M.G.RESISTOR	470	1/8W
C359	NBE21AM-106X	TAN.CAPACITOR	10	10V
C360	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C361	NBE21AM-106X	TAN.CAPACITOR	10	10V
C363	NBE21EM-105X	TAN.CAPACITOR	1	25V
C364	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C365	NBE41CM-106X	TAN.CAPACITOR	10	16V
C366	NBE41CM-106X	TAN.CAPACITOR	10	16V
C367	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C368	NCB31EK-103X	CER.CAPACITOR	0.01	50V
C369	NDC31HJ-680X	CER.CAPACITOR	68p	50V
C371	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C372	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C401	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C402	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C403	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C404	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C405	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C406	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C407	NCB21EK-104X	CER.CAPACITOR	0.1	50V
C408	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C409	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C412	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C413	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C414	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C415	NCS31HJ-331X	CER.CAPACITOR	330p	50V
C417	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C418	NCB31HK-152X	CER.CAPACITOR	1500p	50V
C419	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C420	NRSA63J-471X	M.G.RESISTOR	470	1/16W
C421	NBE21AM-106X	TAN.CAPACITOR	10	10V
C422	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C427	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C429	NCS31HJ-471X	CER.CAPACITOR	470p	50V
C430	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C431	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C432	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C433	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C434	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C435	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C436	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C437	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C438	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C439	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C440	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C441	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C442	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C443	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C444	NBE21EM-105X	TAN.CAPACITOR	1	25V
C445	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C446	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C447	NBE21AM-106X	TAN.CAPACITOR	10	10V
C448	NBE21AM-106X	TAN.CAPACITOR	10	10V
C450	NBE21AM-106X	TAN.CAPACITOR	10	10V
C455	NCB11AK-225	CER.CAPACITOR	2.2	16V
C456	QRSA08J-471	M.G.RESISTOR	470	1/8W
C457	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C459	NBE21AM-106X	TAN.CAPACITOR	10	10V
C460	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C461	NBE21AM-106X	TAN.CAPACITOR	10	10V
C463	NBE21EM-105X	TAN.CAPACITOR	1	25V
C464	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C465	NBE41CM-106X	TAN.CAPACITOR	10	16V
C466	NBE41CM-106X	TAN.CAPACITOR	10	16V
C467	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C468	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C469	NDC31HJ-680X	CER.CAPACITOR	68p	50V
C471	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C472	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C501	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C502	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C503	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C504	NCF31CZ-104X	CER.CAPACITOR	0.1	16V

Symbol No.	Part No.	Part Name	Description	
C505	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C506	NBE41CM-106X	TAN.CAPACITOR	10	16V
C507	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C508	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C509	NBE41CM-106X	TAN.CAPACITOR	10	16V
C510	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C511	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C512	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C513	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C514	NCS31HJ-221X	CER.CAPACITOR	220p	50V
C515	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C516	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C517	NCS31HJ-681X	CER.CAPACITOR	680p	50V
C518	NCS31HJ-221X	CER.CAPACITOR	220p	50V
C519	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C520	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C521	NCS31HJ-681X	CER.CAPACITOR	680p	50V
C522	NBE41CM-106X	TAN.CAPACITOR	10	16V
C523	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C525	NDC31HJ-3R0X	CER.CAPACITOR	3p	50V
C526	NDC31HJ-3R0X	CER.CAPACITOR	3p	50V
C527	NDC31HJ-3R0X	CER.CAPACITOR	3p	50V
C528	NDC31HJ-3R0X	CER.CAPACITOR	3p	50V
C801	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C802	NEH91CM-226X	E.CAPACITOR	22	16V
C803	NBE51CM-226X	TAN.CAPACITOR	22	16V
C804	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C805	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C806	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C807	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C808	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C809	NEH91CM-226X	E.CAPACITOR	22	16V
C810	NBE51CM-226X	TAN.CAPACITOR	22	16V
C811	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C812	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C813	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C814	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C815	NEH91CM-226X	E.CAPACITOR	22	16V
C816	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C817	NEH91EM-106X	E.CAPACITOR	10	25V
C818	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C821	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C822	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C826	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C827	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C828	NCB31HK-103X	CER.CAPACITOR	0.01	50V
VC301	NAT3112-200RZ	TRIM.CAPACITOR	20p DL ADJ.1	
VC401	NAT3112-200RZ	TRIM.CAPACITOR	20p DL ADJ.2	
L101	NQL024J-R47X	COIL	0.47uH	
L102	NQL024J-R47X	COIL	0.47uH	
L201	NQL024J-R47X	COIL	0.47uH	
L202	NQL024J-R47X	COIL	0.47uH	
L802	NQL024J-100X	COIL	10uH	
TH301	NAD0002-103X	THERMISTOR	10k	
TH302	NAD0002-103X	THERMISTOR	10k	
TH401	NAD0002-103X	THERMISTOR	10k	
TH402	NAD0002-103X	THERMISTOR	10k	
CN101	PGZ01932-011Z	CONNECTOR	11PIN	
CN501	PGZ01932-022Z	CONNECTOR	22PIN	
CN603	PGZ01932-008Z	CONNECTOR	8PIN	
CN604	SCV2596-030W	CONNECTOR	30PIN	
CN605	PGZ01932-020Z	CONNECTOR	20PIN	
TP	SSV1096-001	TEST POINT	TP101-TP525	
⚠CP801	ICP-S1.0TN	ICP		
⚠CP802	ICP-S1.0TN	ICP		
⚠CP803	ICP-S0.5TN	ICP		
FL301	PGZ02180-W	FL FILTER		
FL401	PGZ02180-W	FL FILTER		

6.5 S/S REG BOARD ASSEMBLY PARTS LIST [0][5]

SLK1025-A1A(for U. Ver.)/SLK1025-B0A(for E. Ver.) [0][5]□□□□□□

Symbol No.	Part No.	Part Name	Description
K101	PGZ00627Z	FERRATE BEADS	
K102	PGZ00627Z	FERRATE BEADS	
K103	PGZ00627Z	FERRATE BEADS	
K104	PGZ00627Z	FERRATE BEADS	
K105	PGZ00627Z	FERRATE BEADS	
K201	PGZ00627Z	FERRATE BEADS	
K202	PGZ00627Z	FERRATE BEADS	
K203	PGZ00627Z	FERRATE BEADS	
K204	PGZ00627Z	FERRATE BEADS	
K205	PGZ00627Z	FERRATE BEADS	
K301	PGZ00627Z	FERRATE BEADS	
K303	PGZ00627Z	FERRATE BEADS	
K304	PGZ00627Z	FERRATE BEADS	
K305	PGZ00627Z	FERRATE BEADS	
K306	PGZ00627Z	FERRATE BEADS	
K307	PGZ00627Z	FERRATE BEADS	
K308	PGZ00627Z	FERRATE BEADS	
K309	PGZ00627Z	FERRATE BEADS	
K401	PGZ00627Z	FERRATE BEADS	
K403	PGZ00627Z	FERRATE BEADS	
K404	PGZ00627Z	FERRATE BEADS	
K405	PGZ00627Z	FERRATE BEADS	
K406	PGZ00627Z	FERRATE BEADS	
K407	PGZ00627Z	FERRATE BEADS	
K408	PGZ00627Z	FERRATE BEADS	
K409	PGZ00627Z	FERRATE BEADS	
K501	PGZ00627Z	FERRATE BEADS	
K502	PGZ00627Z	FERRATE BEADS	
K503	PGZ00627Z	FERRATE BEADS	
K504	PGZ00627Z	FERRATE BEADS	
K505	PGZ00627Z	FERRATE BEADS	
K506	PGZ00627Z	FERRATE BEADS	
K507	PGZ01823-121AZ	EMI FILTER	
K508	PGZ01823-121AZ	EMI FILTER	
K509	PGZ01823-121AZ	EMI FILTER	
K510	PGZ01823-121AZ	EMI FILTER	
K511	PGZ01823-121AZ	EMI FILTER	
K512	PGZ01823-121AZ	EMI FILTER	
K513	PGZ01823-121AZ	EMI FILTER	
K514	PGZ01823-121AZ	EMI FILTER	
K801	PGZ00627Z	FERRATE BEADS	
K802	PGZ00627Z	FERRATE BEADS	
K803	PGZ00627Z	FERRATE BEADS	
K804	PGZ00627Z	FERRATE BEADS	
K805	PGZ00627Z	FERRATE BEADS	
K806	PGZ00627Z	FERRATE BEADS	
K807	PGZ00627Z	FERRATE BEADS	
K808	PGZ00627Z	FERRATE BEADS	
K809	PGZ00627Z	FERRATE BEADS	
T	PGZ02198-02Z	COIL	T101-T801
– RFP SUB BOARD ASSEMBLY SLK2063 –			
IC41	UPC4074G2-X	I.C.(M)	NEC
C41	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C42	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
R31	NRSA63J-272	M.G.RESISTOR	2.7k 1/16W
R32	NRSA63J-332	M.G.RESISTOR	3.3k 1/16W
R33	NRSA63J-153	M.G.RESISTOR	15k 1/16W
R34	NRSA63J-223	M.G.RESISTOR	22k 1/16W
R35	NRSA63J-332	M.G.RESISTOR	3.3k 1/16W
R41	NRSA63J-272	M.G.RESISTOR	2.7k 1/16W
R42	NRSA63J-332	M.G.RESISTOR	3.3k 1/16W
R43	NRSA63J-153	M.G.RESISTOR	15k 1/16W
R44	NRSA63J-223	M.G.RESISTOR	22k 1/16W
R45	NRSA63J-332	M.G.RESISTOR	3.3k 1/16W
D31	MA152WK-T	DIODE	MATSUSHITA
D41	MA152WK-T	DIODE	MATSUSHITA

Symbol No.	Part No.	Part Name	Description
IC1	TC7W126FU-X	I.C.(M)	TOSHIBA
IC2	TC7W74F-X	I.C.(M)	TOSHIBA
IC3	TC7W74F-X	I.C.(M)	TOSHIBA
IC4	TC4S584F-X	I.C.(M)	TOSHIBA
IC5	TC4S584F-X	I.C.(M)	TOSHIBA
IC6	UPD71055GB-10	I.C.(M)	NEC
IC7	TC74HC138AF-X	I.C.(M)	TOSHIBA
IC8	TC7S04F-X	I.C.(M)	TOSHIBA
IC9	PLSL1019	I.C.(M)	JVC (U)
IC9	PLSL1040	I.C.(M)	JVC (E)
SK9	SCV1841-028	IC SOCKET	FOR IC9
IC10	TC4W53F-X	I.C.(M)	TOSHIBA
IC11	S-8054HN-CB-X	I.C.(M)	SEIKO
IC12	TC4S584F-X	I.C.(M)	TOSHIBA
IC13	AN77L05M-X	I.C.(M)	MATSUSHITA
IC14	SC78148GF-026	I.C.(M)	NEC
IC15	S-8054HN-CB-X	I.C.(M)	SEIKO
IC16	TC4S584F-X	I.C.(M)	TOSHIBA
IC17	TC74HC573AF-X	I.C.(M)	TOSHIBA
IC18	TC4W53F-X	I.C.(M)	TOSHIBA
IC19	BA10358F-X	I.C.(M)	ROHM
IC20	BA10358F-X	I.C.(M)	ROHM
IC21	BA6285FP-X	I.C.(M)	ROHM
IC22	BA10358F-X	I.C.(M)	ROHM
IC23	TC4066BF-X	I.C.(M)	TOSHIBA
IC24	NJM2068M-D-X	I.C.(M)	JRC
IC25	BA10393F-X	I.C.(M)	ROHM
IC26	NJM2068M-D-X	I.C.(M)	JRC
IC27	BA10393F-X	I.C.(M)	ROHM
IC28	TC4S30F-X	I.C.(M)	TOSHIBA
IC29	TC4S30F-X	I.C.(M)	TOSHIBA
IC30	TC7W74F-X	I.C.(M)	TOSHIBA
IC31	BA6862FS-X	I.C.(M)	ROHM
IC32	BA7043FS-X	I.C.(M)	ROHM
IC33	TC7W00F-X	I.C.(M)	TOSHIBA
IC34	BR24C02F-X	I.C.(M)	ROHM
IC35	BA10358F-X	I.C.(M)	ROHM
IC36	AN77L05M-X	I.C.(M)	MATSUSHITA
IC37	AN77L05M-X	I.C.(M)	MATSUSHITA
IC38	AN77L05M-X	I.C.(M)	MATSUSHITA
IC39	AN77L05M-X	I.C.(M)	MATSUSHITA
IC501	MB3782PF-X	I.C.(M)	FUJITSU
IC502	MB3782PF-X	I.C.(M)	FUJITSU
IC503	BA10358F-X	I.C.(M)	ROHM
IC504	MB3782PF-X	I.C.(M)	FUJITSU
IC505	AN77L05M-X	I.C.(M)	MATSUSHITA
Q1	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q3	2SB1073/PQ/-X	TRANSISTOR	MATSUSHITA
Q4	DTC114EUA-X	TRANSISTOR	ROHM
Q5	DTA114EUA-X	TRANSISTOR	ROHM
Q6	DTC124EUA-X	TRANSISTOR	ROHM
Q7	DTA114EUA-X	TRANSISTOR	ROHM
Q8	DTA114EUA-X	TRANSISTOR	ROHM
Q9	DTC114EUA-X	TRANSISTOR	ROHM
Q10	2SC2873/Y/-X	TRANSISTOR	TOSHIBA
Q12	FMG1A-W	TRANSISTOR	ROHM
Q13	FMC2A-X	TRANSISTOR	ROHM
Q14	DTC124EUA-X	TRANSISTOR	ROHM
Q15	FMC2A-X	TRANSISTOR	ROHM
Q16	DTA114EUA-X	TRANSISTOR	ROHM
Q17	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q18	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q19	DTC114EUA-X	TRANSISTOR	ROHM
Q20	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q21	DTA124EUA-X	TRANSISTOR	ROHM
Q22	2SB1073/PQ/-X	TRANSISTOR	MATSUSHITA
Q23	DTC114EUA-X	TRANSISTOR	ROHM
Q24	FMG1A-W	TRANSISTOR	ROHM
Q25	2SC4081/QRS/-X	TRANSISTOR	ROHM

Symbol No.	Part No.	Part Name	Description
Q26	2SB1073/PQ/-X	TRANSISTOR	MATSUSHITA
Q27	2SB1073/PQ/-X	TRANSISTOR	MATSUSHITA
Q28	2SB1073/PQ/-X	TRANSISTOR	MATSUSHITA
Q29	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q501	2SJ279S-X	FET	HITACHI
Q502	DTC124EUA-X	TRANSISTOR	ROHM
Q505	2SJ279S-X	FET	HITACHI
Q506	2SC4097/QR/-X	TRANSISTOR	ROHM
Q507	2SA1577/QR/-X	TRANSISTOR	ROHM
Q508	2SJ279S-X	FET	HITACHI
Q509	2SC4097/QR/-X	TRANSISTOR	ROHM
Q510	2SA1577/QR/-X	TRANSISTOR	ROHM
Q511	2SJ279S-X	FET	HITACHI
Q512	2SC4097/QR/-X	TRANSISTOR	ROHM
Q513	2SA1577/QR/-X	TRANSISTOR	ROHM
Q514	2SJ279S-X	FET	HITACHI
Q515	2SC4097/QR/-X	TRANSISTOR	ROHM
Q516	2SA1577/QR/-X	TRANSISTOR	ROHM
Q518	2SJ279S-X	FET	HITACHI
Q519	2SC4097/QR/-X	TRANSISTOR	ROHM
Q520	2SA1577/QR/-X	TRANSISTOR	ROHM
Q521	2SJ279S-X	FET	HITACHI
Q522	2SC4097/QR/-X	TRANSISTOR	ROHM
Q523	2SA1577/QR/-X	TRANSISTOR	ROHM
Q525	2SJ279S-X	FET	HITACHI
Q526	2SC4097/QR/-X	TRANSISTOR	ROHM
Q527	2SA1577/QR/-X	TRANSISTOR	ROHM
Q528	2SA1577/QR/-X	TRANSISTOR	ROHM
Q529	2SC4097/QR/-X	TRANSISTOR	ROHM
Q533	2SJ279S-X	FET	HITACHI
Q534	2SC4097/QR/-X	TRANSISTOR	ROHM
Q535	2SA1577/QR/-X	TRANSISTOR	ROHM
D1	MA738-X	DIODE	MATSUSHITA
D2	MA3120/M/-X	ZENER DIODE	MATSUSHITA
D3	MA3130/M/-X	ZENER DIODE	MATSUSHITA
D4	DAP202U-X	DIODE	ROHM
D5	DAN202U-X	DIODE	ROHM
D6	DAN202U-X	DIODE	ROHM
D7	DAN202U-X	DIODE	ROHM
D8	DAN202U-X	DIODE	ROHM
D9	1SS133	DIODE	ROHM
D11	DAP202U-X	DIODE	ROHM
D12	DAN202U-X	DIODE	ROHM
D13	MA3020-X	ZENER DIODE	MATSUSHITA
D14	DAN202U-X	DIODE	ROHM
D15	MA3075/M/-X	ZENER DIODE	MATSUSHITA
D16	MA3091/M/-X	ZENER DIODE	MATSUSHITA
D19	MA3091/M/-X	ZENER DIODE	MATSUSHITA
D20	DAN202U-X	DIODE	ROHM
D502	MA736-X	DIODE	MATSUSHITA
D503	MA736-X	DIODE	MATSUSHITA
D504	MA736-X	DIODE	MATSUSHITA
D506	MA736-X	DIODE	MATSUSHITA
D507	MA736-X	DIODE	MATSUSHITA
D508	MA3056/M/-X	DIODE	MATSUSHITA
D509	MA736-X	DIODE	MATSUSHITA
D511	MA736-X	DIODE	MATSUSHITA
D512	DA114-X	DIODE	ROHM
D514	MA736-X	DIODE	MATSUSHITA
D515	DA114-X	DIODE	ROHM
R1	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R2	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R3	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R4	NRSA63J-101X	M.G.RESISTOR	100 1/16W
R5	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R6	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R7	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R8	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R9	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R10	NRSA63J-104X	M.G.RESISTOR	100k 1/16W

Symbol No.	Part No.	Part Name	Description
R11	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R12	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R13	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R14	NRSA63J-391X	M.G.RESISTOR	390 1/16W
R15	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R16	NRSA63J-681X	M.G.RESISTOR	680 1/16W
R17	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R18	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R19	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R20	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R21	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R22	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R23	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R24	NRSA63J-563X	M.G.RESISTOR	56k 1/16W
R25	NRSA63J-563X	M.G.RESISTOR	56k 1/16W
R26	NRSA63J-563X	M.G.RESISTOR	56k 1/16W
R27	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R28	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R29	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R30	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R31	NRSA63J-681X	M.G.RESISTOR	680 1/16W
R32	NRSA63J-821X	M.G.RESISTOR	820 1/16W
R33	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R34	NRSA63J-681X	M.G.RESISTOR	680 1/16W
R35	NRSA63J-821X	M.G.RESISTOR	820 1/16W
R36	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R37	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R38	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R39	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R40	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R41	NRSA63J-121X	M.G.RESISTOR	120 1/16W
R42	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R43	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R44	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R45	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R46	NRSA63J-562X	M.G.RESISTOR	5.6k 1/16W
R47	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R48	NRSA63J-224X	M.G.RESISTOR	220k 1/16W
R49	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R50	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R51	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R53	NRSA63J-474X	M.G.RESISTOR	470k 1/16W
R54	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R55	NRSA63J-394X	M.G.RESISTOR	390k 1/16W
R56	NRSA63J-272X	M.G.RESISTOR	2.7k 1/16W
R57	NRSA63J-681X	M.G.RESISTOR	680 1/16W
R58	NRSA63J-333X	M.G.RESISTOR	33k 1/16W
R59	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R60	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R61	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R62	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R63	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R64	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R65	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R66	NRSA63J-393X	M.G.RESISTOR	39k 1/16W
R67	NRSA63J-153X	M.G.RESISTOR	15k 1/16W
R68	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R69	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R70	NRS144J-2R2X	M.G.RESISTOR	2.2 1/4W
R71	NRS144J-1R0X	M.G.RESISTOR	1 1/4W
R72	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R73	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R74	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R75	NRSA63J-183X	M.G.RESISTOR	18k 1/16W
R76	NRSA63J-823X	M.G.RESISTOR	82k 1/16W
R77	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R78	NRSA63J-332X	M.G.RESISTOR	3.3k 1/16W
R79	NRSA63J-273X	M.G.RESISTOR	27k 1/16W
R80	NRSA63J-473X	M.G.RESISTOR	47k 1/16W
R81	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R82	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R83	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R84	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W

Symbol No.	Part No.	Part Name	Description	
R85	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R86	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R87	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R88	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R89	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R90	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R91	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R92	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R93	NRSA63J-4R7X	M.G.RESISTOR	4.7	1/16W
R94	NRSA63J-123X	M.G.RESISTOR	12k	1/16W
R95	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R99	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R100	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R101	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R102	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R103	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R104	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R105	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R106	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R107	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R108	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R109	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R110	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R111	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R112	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R113	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R114	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R115	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R116	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R117	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R118	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R119	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R120	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R121	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R122	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R123	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R124	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R125	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R126	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R127	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R128	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R129	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R130	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R131	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R132	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R133	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R134	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R135	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R136	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R137	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R138	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R139	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R140	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R141	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R142	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R143	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R144	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R145	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R146	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R147	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R148	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R149	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R150	NRSA63J-564X	M.G.RESISTOR	560k	1/16W
R151	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R152	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R153	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R154	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R155	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R156	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R157	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R158	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R159	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R160	NRSA63J-394X	M.G.RESISTOR	390k	1/16W

Symbol No.	Part No.	Part Name	Description	
R161	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R162	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R163	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R164	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R165	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R166	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R167	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R168	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R169	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R170	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R171	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R172	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R173	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R174	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R175	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R176	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R177	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R178	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R179	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R180	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R181	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R182	NRSA63J-823X	M.G.RESISTOR	82k	1/16W
R183	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R184	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R185	NRSA63J-184X	M.G.RESISTOR	180k	1/16W
R186	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R187	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R188	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R189	NRS144J-1R0X	M.G.RESISTOR	1	1/4W
R190	NRS144J-2R2X	M.G.RESISTOR	2.2	1/4W
R191	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R192	NRSA63J-474X	M.G.RESISTOR	470k	1/16W
R193	NRSA63J-124X	M.G.RESISTOR	120k	1/16W
R194	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R195	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R196	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R197	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R198	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R199	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R201	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R202	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R203	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R204	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R205	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R206	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R207	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R208	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R209	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R210	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R211	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R212	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R213	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R501	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R502	NRSA63F-153X	M.G.RESISTOR	15k	1/16W
R503	NRSA63F-222X	M.G.RESISTOR	2.2k	1/16W
R504	NRSA63F-222X	M.G.RESISTOR	2.2k	1/16W
R505	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R506	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R507	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R508	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R509	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R510	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R511	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R512	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R514	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R515	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R516	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R517	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R518	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R519	NRSA63F-472X	M.G.RESISTOR	4.7k	1/16W
R520	NRSA63F-472X	M.G.RESISTOR	4.7k	1/16W
R521	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R522	NRSA63J-154X	M.G.RESISTOR	150k	1/16W

Symbol No.	Part No.	Part Name	Description	
R523	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R524	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R525	NRSA63F-472X	M.G.RESISTOR	4.7k	1/16W
R526	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R527	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R528	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R529	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R530	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R531	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R532	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R533	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R534	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R535	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R536	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R537	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R538	NRSA63F-823X	M.G.RESISTOR	82k	1/16W
R539	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R540	NRSA63F-222X	M.G.RESISTOR	2.2k	1/16W
R541	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R542	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R544	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R545	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R546	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R547	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R548	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R549	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R550	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R551	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R552	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R553	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R554	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R555	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R556	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R557	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R558	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R559	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R561	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R562	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R563	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R564	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R565	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R566	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R567	NRSA63F-222X	M.G.RESISTOR	2.2k	1/16W
R568	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R569	NRSA63F-222X	M.G.RESISTOR	2.2k	1/16W
R570	NRSA63F-332X	M.G.RESISTOR	3.3k	1/16W
R571	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R572	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R573	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R574	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R575	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R576	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R577	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R578	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R579	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R580	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R581	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R582	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R583	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R584	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R585	NRSA63F-822X	M.G.RESISTOR	8.2k	1/16W
R587	NRSA63F-472X	M.G.RESISTOR	4.7k	1/16W
R588	NRSA63F-472X	M.G.RESISTOR	4.7k	1/16W
R589	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R590	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R591	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R592	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R596	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R597	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R598	NRSA63F-331X	M.G.RESISTOR	330	1/16W
R599	NRSA63F-273X	M.G.RESISTOR	27k	1/16W
R600	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R601	NRSA63F-682X	M.G.RESISTOR	6.8k	1/16W

Symbol No.	Part No.	Part Name	Description	
R603	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R604	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R605	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R606	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R607	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R608	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R609	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R610	NRSA63J-100X	M.G.RESISTOR	10	1/16W
VR501	NVP1415-103X	TRIM.RESISTOR	10k	SW FREQ VR
C1	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C2	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C3	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C4	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C5	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C6	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C7	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C8	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C9	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C10	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C11	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C12	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C13	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C14	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C15	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C16	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C17	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C18	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C19	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C20	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C21	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C22	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C23	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C24	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C25	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C26	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C27	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C28	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C29	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C30	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C31	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C32	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C33	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C34	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C35	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C36	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C37	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C38	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C39	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C40	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C41	NBE21EM-105X	TAN.CAPACITOR	1	25V
C42	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C43	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C44	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C45	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C46	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C47	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C48	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C49	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C51	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C52	NCS31HJ-470X	CER.CAPACITOR	47p	50V
C53	NCS31HJ-270X	CER.CAPACITOR	27p	50V
C54	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C55	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C56	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C57	NCB31CK-823X	CER.CAPACITOR	0.082	16V
C58	NCB31CK-823X	CER.CAPACITOR	0.082	16V
C59	NCB31HK-472X	CER.CAPACITOR	4700p	50V
C60	NCB31HK-472X	CER.CAPACITOR	4700p	50V
C61	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C62	NCB31CK-473X	CER.CAPACITOR	0.047	16V

Symbol No.	Part No.	Part Name	Description	
C63	NCB31CK-273X	CER.CAPACITOR	0.027	16V
C64	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C65	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C66	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C67	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C68	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C69	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C70	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C71	NCS31HJ-8R0X	CER.CAPACITOR	8p	50V
C72	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C73	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C74	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C75	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C76	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C82	NCS31HJ-561X	CER.CAPACITOR	560p	50V
C83	QFHA1JJ-333	M.M.CAPACITOR	0.033	63V
C84	NCB31HK-392X	CER.CAPACITOR	3900p	50V
C85	NEH91CM-106X	E.CAPACITOR	10	16V
C86	NEH91AM-336X	E.CAPACITOR	33	10V
C87	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C88	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C89	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C90	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C91	NCS31HJ-470X	CER.CAPACITOR	47p	50V
C92	NCS31HJ-271X	CER.CAPACITOR	270p	50V
C93	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C94	NEN21AM-106X	N.P.CAPACITOR	10	10V
C95	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C96	NEH91AM-336X	E.CAPACITOR	33	10V
C97	NBE51AM-476X	TAN.CAPACITOR	47	10V
C98	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C99	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C100	NBE21EM-105X	TAN.CAPACITOR	1	25V
C101	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C102	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C103	NCS31HJ-330X	CER.CAPACITOR	33p	50V
C104	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C105	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C106	NEH91AM-336X	E.CAPACITOR	33	10V
C107	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C108	NBE21EM-105X	TAN.CAPACITOR	1	25V
C109	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C110	NCS31HJ-330X	CER.CAPACITOR	33p	50V
C111	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C112	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C113	NCS31HJ-101X	CER.CAPACITOR	100p	50V
C114	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C115	NBE41CM-106X	TAN.CAPACITOR	10	16V
C116	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C117	NCB31EK-153X	CER.CAPACITOR	0.015	25V
C118	NCB31CK-273X	CER.CAPACITOR	0.027	16V
C119	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C120	NEN21HM-224X	N.P.CAPACITOR	0.22	50V
C121	NEN21HM-224X	N.P.CAPACITOR	0.22	50V
C122	NEN21HM-224X	N.P.CAPACITOR	0.22	50V
C123	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C124	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C125	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C126	NCF31EZ-104X	CER.CAPACITOR	0.1	25V
C127	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C128	NEH91AM-336X	E.CAPACITOR	33	10V
C129	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C130	NEH91CM-476X	E.CAPACITOR	47	16V
C131	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C132	NEH91EM-336X	E.CAPACITOR	33	25V
C133	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C134	NEH91EM-336X	E.CAPACITOR	33	25V
C135	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C136	NEH91CM-106X	E.CAPACITOR	10	16V
C137	NCF31CZ-334X	CER.CAPACITOR	0.33	16V
C138	NEH91CM-106X	E.CAPACITOR	10	16V
C139	NCF31CZ-334X	CER.CAPACITOR	0.33	16V
C140	NEH91CM-106X	E.CAPACITOR	10	16V

Symbol No.	Part No.	Part Name	Description	
C141	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C142	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C143	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C144	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C145	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C146	NEH91AM-336X	E.CAPACITOR	33	10V
C147	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C148	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C149	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C150	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C151	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C152	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C153	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C154	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C155	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C156	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C157	NBE41CM-106X	TAN.CAPACITOR	10	16V
C158	NCF31CZ-334X	CER.CAPACITOR	0.33	16V
C159	NEH91CM-106X	E.CAPACITOR	10	16V
C160	NCF31CZ-334X	CER.CAPACITOR	0.33	16V
C161	NEH91CM-106X	E.CAPACITOR	10	16V
C162	NCF31CZ-334X	CER.CAPACITOR	0.33	16V
C163	NEH91CM-106X	E.CAPACITOR	10	16V
C164	NEH91CM-106X	E.CAPACITOR	10	16V
C165	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C501	NEX11DM-476X	E.CAPACITOR	47	20V
C504	NBE21EM-105X	TAN.CAPACITOR	1	25V
C505	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C506	NCB31EK-822X	CER.CAPACITOR	8200p	25V
C507	NCB31EK-822X	CER.CAPACITOR	8200p	25V
C508	NBE21EM-105X	TAN.CAPACITOR	1	25V
C509	NEX11DM-476X	E.CAPACITOR	47	20V
C510	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C511	NEX11DM-476X	E.CAPACITOR	47	20V
C512	NEX11AM-476X	E.CAPACITOR	47	10V
C513	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C514	NEX11AM-476X	E.CAPACITOR	47	10V
C515	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C516	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C517	NCB31EK-822X	CER.CAPACITOR	8200p	25V
C518	NBE21EM-105X	TAN.CAPACITOR	1	25V
C519	NEX11AM-476X	E.CAPACITOR	47	10V
C520	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C521	NEX11AM-476X	E.CAPACITOR	47	10V
C524	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C525	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C526	NBE21EM-105X	TAN.CAPACITOR	1	25V
C527	NBE21EM-105X	TAN.CAPACITOR	1	25V
C528	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C529	NEX11DM-476X	E.CAPACITOR	47	20V
C530	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C531	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C532	NBE21EM-105X	TAN.CAPACITOR	1	25V
C533	NEX11DM-476X	E.CAPACITOR	47	20V
C534	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C535	NCR21CK-563X	CER.CAPACITOR	0.056	16V
C536	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C537	NEX11DM-476X	E.CAPACITOR	47	20V
C538	NEX11DM-476X	E.CAPACITOR	47	20V
C540	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C541	NBE21EM-105X	TAN.CAPACITOR	1	25V
C542	NEX10JM-476X	E.CAPACITOR	47	6.3V
C543	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C544	NEX10JM-476X	E.CAPACITOR	47	6.3V
C545	NCB31EK-822X	CER.CAPACITOR	8200p	25V
C546	NCB31EK-822X	CER.CAPACITOR	8200p	25V
C547	NBE21EM-105X	TAN.CAPACITOR	1	25V
C548	QETC1JM-106Z	E.CAPACITOR	10	63V
C549	NCF21HZ-104X	CER.CAPACITOR	0.1	50V
C550	QETC1JM-106Z	E.CAPACITOR	10	63V
C551	NCS31HJ-471X	CER.CAPACITOR	470p	50V
C552	NCS31HJ-471X	CER.CAPACITOR	470p	50V
C553	NCF21HZ-104X	CER.CAPACITOR	0.1	50V

Symbol No.	Part No.	Part Name	Description
C554	NCF21HZ-104X	CER.CAPACITOR	0.1 50V
C555	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C556	NCB31EK-822X	CER.CAPACITOR	8200p 25V
C557	NBE21EM-105X	TAN.CAPACITOR	1 25V
C560	NCF21HZ-104X	CER.CAPACITOR	0.1 50V
C561	NEX10JM-476X	E.CAPACITOR	47 6.3V
C562	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C563	NEX10JM-476X	E.CAPACITOR	47 6.3V
C564	NCF31CZ-104X	CER.CAPACITOR	0.1 16V
C565	NEH91CM-106X	E.CAPACITOR	10 16V
C566	NCF31CZ-334X	CER.CAPACITOR	0.33 16V
L1	NQL114K-100X	COIL	10uH
L2	NQR0181-001X	COIL	
L3	NQL114K-100X	COIL	10uH
L4	NQL114K-100X	COIL	10uH
L5	NQL114K-100X	COIL	10uH
L6	NQL114K-100X	COIL	10uH
L7	NQL114K-100X	COIL	10uH
L8	NQL114K-100X	COIL	10uH
L9	NQL114K-100X	COIL	10uH
L10	NQL114K-100X	COIL	10uH
L11	NQL114K-100X	COIL	10uH
L12	NQL114K-100X	COIL	10uH
L501	NQL26CK-330X	COIL	33uH
L502	NQL25CM-470X	COIL	47uH
L503	NQL23CM-330X	COIL	33uH
L504	NQL25CM-330X	COIL	33uH
L505	NQL23CM-330X	COIL	33uH
L506	NQL24CN-470X	COIL	47uH
L507	NQL23CM-330X	COIL	33uH
L508	NQL24CN-470X	COIL	47uH
L509	NQL24CN-470X	COIL	47uH
L510	NQL25CM-470X	COIL	47uH
L511	NQL25CM-330X	COIL	33uH
L512	SSV2810-330V	COIL	33uH
L516	NQL25CM-330X	COIL	33uH
L517	SSV2810-330V	COIL	33uH
L520	SSV2810-330V	COIL	33uH
X1	PGZ02200-002	CRYSTAL	12MHz
TH1	QAD0057-1R0	THERMISTOR	1
S1	SSV2664	SLIDE SWITCH	PAL/NTSC
S2	SSV2664	SLIDE SWITCH	TEST MODE ON/OFF
CN1	SCV2596-030W	CONNECTOR	30PIN
CN2	PGZ02149-102Z	CONNECTOR	2PIN
CN3	PGZ01932-010Z	CONNECTOR	10PIN
CN4	PGZ01932-022Z	CONNECTOR	22PIN
CN5	SSV2637-L02	CONNECTOR	2PIN
CN6	SSV2637-L03	CONNECTOR	3PIN
CN7	SSV2637-L08	CONNECTOR	8PIN
CN8	PGZ01932-011Z	CONNECTOR	11PIN
CN9	PGZ01932-010Z	CONNECTOR	10PIN
CN10	PGZ02149-008Z	CONNECTOR	8PIN
CN11	PGZ01932-024Z	CONNECTOR	24PIN
CN12	SCV2596-030W	CONNECTOR	30PIN
CN13	SCV2596-030W	CONNECTOR	30PIN
CN15	SSV2637-L07	CONNECTOR	7PIN
TP	SSV1096-001	TEST POINT	TP1-TP507
⚠CP501	ICP-S1.0TN	ICP	
⚠CP502	ICP-S0.5TN	ICP	
⚠CP503	ICP-S1.0TN	ICP	
⚠CP504	ICP-S0.5TN	ICP	
⚠CP505	ICP-S1.0TN	ICP	

Symbol No.	Part No.	Part Name	Description
⚠CP506	ICP-S1.0TN	ICP	
⚠CP507	ICP-S0.5TN	ICP	
K1	PGZ00627Z	FERRATE BEADS	
K2	PGZ00627Z	FERRATE BEADS	
K3	PGZ00627Z	FERRATE BEADS	
K4	PGZ00627Z	FERRATE BEADS	
T501	NQR0183-001X	TRANS	
TB	PGZ02228	EARTH LUG	TB1-TB5

6.6 PRE/REC BOARD ASSEMBLY PARTS LIST 06

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Symbol No.	Part No.	Part Name	Description	
IC101	AN3730FA	I.C.(M)	MATSUSHITA	
IC201	AN3730FA	I.C.(M)	MATSUSHITA	
IC202	AN77L03M-X	I.C.(M)	MATSUSHITA	
IC203	DS90C032TM-X	I.C.(M)	NATIONAL SEMICO	
IC204	TC74HC4040AF-X	I.C.(M)	TOSHIBA	
IC205	TC74VHC153F-X	I.C.(M)	TOSHIBA	
Q101	XN4504-W	TRANSISTOR	MATSUSHITA	
Q102	2SA1462/3-4/-X	TRANSISTOR	NEC	
Q103	2SC3937-X	TRANSISTOR	MATSUSHITA	
Q104	XN4504-W	TRANSISTOR	MATSUSHITA	
Q105	2SA1462/3-4/-X	TRANSISTOR	NEC	
Q106	2SC3937-X	TRANSISTOR	MATSUSHITA	
Q201	XN4504-W	TRANSISTOR	MATSUSHITA	
Q202	2SA1462/3-4/-X	TRANSISTOR	NEC	
Q203	2SC3937-X	TRANSISTOR	MATSUSHITA	
Q204	XN4504-W	TRANSISTOR	MATSUSHITA	
Q205	2SA1462/3-4/-X	TRANSISTOR	NEC	
Q206	2SC3937-X	TRANSISTOR	MATSUSHITA	
Q209	2SA1577/QR/-X	TRANSISTOR	ROHM	
Q210	DTC114EUA-X	TRANSISTOR	ROHM	
Q301	2SK621-X	FET	MATSUSHITA	
Q302	2SK621-X	FET	MATSUSHITA	
Q303	2SA1037AK/QR/-X	TRANSISTOR	ROHM	
Q304	2SA1037AK/QR/-X	TRANSISTOR	ROHM	
Q305	2SC3735/4-5/-X	TRANSISTOR	NEC	
Q306	2SC3735/4-5/-X	TRANSISTOR	NEC	
Q307	2SC3735/4-5/-X	TRANSISTOR	NEC	
Q308	2SC3735/4-5/-X	TRANSISTOR	NEC	
R101	NRSA63J-202X	M.G.RESISTOR	2k	1/16W
R102	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R103	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R104	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R105	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R106	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R107	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R108	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R109	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R110	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R111	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R112	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R113	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R116	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R117	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R118	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R119	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R120	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R121	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R122	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R123	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R126	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R127	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R128	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R129	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R130	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R131	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R132	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R201	NRSA63J-202X	M.G.RESISTOR	2k	1/16W
R202	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R203	NRSA63J-182X	M.G.RESISTOR	1.8k	1/16W
R204	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R205	NRSA63J-470X	M.G.RESISTOR	47	1/16W
R206	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R207	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R208	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R209	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R210	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R211	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R212	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R213	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R216	NRSA63J-681X	M.G.RESISTOR	680	1/16W

Symbol No.	Part No.	Part Name	Description	
R217	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R218	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R219	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R220	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R221	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R222	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R223	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R226	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R227	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R228	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R229	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R230	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R231	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R232	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R235	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R238	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R240	NRSA63J-332X	M.G.RESISTOR	S3.3k	1/16
R241	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R242	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R244	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R245	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R246	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R247	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R248	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R249	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R250	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R251	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R252	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R253	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R254	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R255	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R256	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R257	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R258	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R259	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R260	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R261	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R262	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R263	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R264	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R265	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R266	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R267	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R268	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R270	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R271	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R274	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R275	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R278	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R279	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R282	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R283	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R284	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R285	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R286	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R287	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R301	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R302	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R303	NRSA63J-122X	M.G.RESISTOR	1.2k	1/16W
R304	NRSA63J-122X	M.G.RESISTOR	1.2k	1/16W
R305	NRSA63J-150X	M.G.RESISTOR	15	1/16W
R306	NRSA63J-150X	M.G.RESISTOR	15	1/16W
R307	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R308	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R309	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R310	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R311	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R312	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R313	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R314	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R315	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R316	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R317	NRSA63J-390X	M.G.RESISTOR	39	1/16W

Symbol No.	Part No.	Part Name	Description	
R318	NRSA63J-390X	M.G.RESISTOR	39	1/16W
R319	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R320	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R323	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R324	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R325	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
C101	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C102	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C103	NCB31HK-152X	CER.CAPACITOR	1500p	50V
C104	NDC31HJ-3R0X	CER.CAPACITOR	3p	50V
C105	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C106	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C107	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C108	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C109	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C110	NBE21AM-106X	TAN.CAPACITOR	10	10V
C111	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C112	NCS31HJ-151X	CER.CAPACITOR	150p	50V
C113	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C114	NBE21EM-105X	TAN.CAPACITOR	1	25V
C115	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C116	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C117	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C118	NBE21AM-106X	TAN.CAPACITOR	10	10V
C119	NCB31HK-152X	CER.CAPACITOR	1500p	50V
C120	NBE21AM-106X	TAN.CAPACITOR	10	10V
C121	NCB31HK-152X	CER.CAPACITOR	1500p	50V
C122	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C123	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C124	NBE21EM-105X	TAN.CAPACITOR	1	25V
C125	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C126	NCS31HJ-151X	CER.CAPACITOR	150p	50V
C127	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C128	NBE41CM-106X	TAN.CAPACITOR	10	16V
C129	NBE21AM-106X	TAN.CAPACITOR	10	10V
C130	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C131	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C132	NCB31HK-122X	CER.CAPACITOR	1200p	50V
C133	NCB31HK-122X	CER.CAPACITOR	1200p	50V
C134	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C135	NCS31HJ-681X	CER.CAPACITOR	680p	50V
C136	NCS31HJ-470X	CER.CAPACITOR	47p	50V
C137	NBE21AM-106X	TAN.CAPACITOR	10	10V
C138	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C139	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C140	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C141	NBE41CM-106X	TAN.CAPACITOR	10	16V
C201	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C202	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C203	NCB31HK-152X	CER.CAPACITOR	1500p	50V
C204	NDC31HJ-3R0X	CER.CAPACITOR	3p	50V
C205	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C206	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C207	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C208	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C209	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C210	NBE21AM-106X	TAN.CAPACITOR	10	10V
C211	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C212	NCS31HJ-151X	CER.CAPACITOR	150p	50V
C213	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C214	NBE21EM-105X	TAN.CAPACITOR	1	25V
C215	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C216	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C217	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C218	NBE21AM-106X	TAN.CAPACITOR	10	10V
C219	NCB31HK-152X	CER.CAPACITOR	1500p	50V
C220	NBE21AM-106X	TAN.CAPACITOR	10	10V
C221	NCB31HK-152X	CER.CAPACITOR	1500p	50V
C222	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C223	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C224	NBE21EM-105X	TAN.CAPACITOR	1	25V

Symbol No.	Part No.	Part Name	Description	
C225	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C226	NCS31HJ-151X	CER.CAPACITOR	150p	50V
C227	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C228	NBE41CM-106X	TAN.CAPACITOR	10	16V
C229	NBE21AM-106X	TAN.CAPACITOR	10	10V
C230	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C231	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C232	NCB31HK-122X	CER.CAPACITOR	1200p	50V
C233	NCB31HK-122X	CER.CAPACITOR	1200p	50V
C234	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C235	NCS31HJ-681X	CER.CAPACITOR	680p	50V
C236	NCS31HJ-470X	CER.CAPACITOR	47p	50V
C237	NBE21AM-106X	TAN.CAPACITOR	10	10V
C238	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C239	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C240	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C241	NBE41CM-106X	TAN.CAPACITOR	10	16V
C244	NBE41CM-106X	TAN.CAPACITOR	10	16V
C245	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C246	NBE21AM-106X	TAN.CAPACITOR	10	10V
C247	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C248	NBE41CM-106X	TAN.CAPACITOR	10	16V
C249	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C250	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C251	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C252	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C253	NDC31HG-101X	CER.CAPACITOR	100p	50V
C254	NDC31HG-101X	CER.CAPACITOR	100p	50V
C255	NDC31HG-101X	CER.CAPACITOR	100p	50V
C256	NCS31HJ-470X	CER.CAPACITOR	47p	50V
C301	NCS31HJ-221X	CER.CAPACITOR	220p	50V
C302	NCS31HJ-221X	CER.CAPACITOR	220p	50V
C303	NCS31HJ-121X	CER.CAPACITOR	120p	50V
C304	NCS31HJ-121X	CER.CAPACITOR	120p	50V
C305	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C306	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C307	NDC31HG-100X	CER.CAPACITOR	10p	50V
C308	NDC31HG-100X	CER.CAPACITOR	10p	50V
C309	NDC31HG-100X	CER.CAPACITOR	10p	50V
C310	NDC31HG-100X	CER.CAPACITOR	10p	50V
C311	NDC31HG-100X	CER.CAPACITOR	10p	50V
C312	NDC31HG-100X	CER.CAPACITOR	10p	50V
C315	NBE41VM-225X	TAN.CAPACITOR	2.2	35V
C316	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C320	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C321	NDC31HJ-3R0X	CER.CAPACITOR	3p	50V
C322	NDC31HJ-3R0X	CER.CAPACITOR	3p	50V
C323	NDC31HJ-3R0X	CER.CAPACITOR	3p	50V
C324	NDC31HJ-3R0X	CER.CAPACITOR	3p	50V
L101	NQL124J-220X	COIL	22uH	
L102	NQL124M-1R0X	COIL	1uH	
L103	NQL124J-220X	COIL	22uH	
L104	NQL124M-1R0X	COIL	1uH	
L201	NQL124J-220X	COIL	22uH	
L202	NQL124M-1R0X	COIL	1uH	
L203	NQL124J-220X	COIL	22uH	
L204	NQL124M-1R0X	COIL	1uH	
L301	NQL124M-1R0X	COIL	1uH	
L302	NQL124M-1R0X	COIL	1uH	
L303	NQL124M-1R0X	COIL	1uH	
L304	NQL124M-1R0X	COIL	1uH	
CN201	PGZ01932-011Z	CONNECTOR	11PIN	
CN202	SCV2596-028W	CONNECTOR	28PIN	
CN203	PGZ01932-017Z	CONNECTOR	17PIN	
TP	SSV1096-001	TEST POINT	TP101-210	
K101	PGZ00627Z	FERRATE BEADS		

Symbol No.	Part No.	Part Name	Description
K102	PGZ00627Z	FERRATE BEADS	
K103	PGZ00627Z	FERRATE BEADS	
K201	PGZ00627Z	FERRATE BEADS	
K202	PGZ00627Z	FERRATE BEADS	
K203	PGZ00627Z	FERRATE BEADS	
K204	PGZ00627Z	FERRATE BEADS	
K205	PGZ00627Z	FERRATE BEADS	
K301	PGZ00627Z	FERRATE BEADS	
K303	PGZ01823-121AZ	EMI FILTER	
K304	PGZ01823-121AZ	EMI FILTER	
K305	PGZ01823-121AZ	EMI FILTER	
K306	PGZ01823-121AZ	EMI FILTER	

6.7 OPERATION BOARD ASSEMBLY PARTS LIST [07]

SLK2048-02-00B [07]

Symbol No.	Part No.	Part Name	Description	
IC901	M66312FP-X	I.C.(M)	MITSUBISHI	
IC902	TC4S584F-X	I.C.(M)	TOSHIBA	
IC903	TC4S584F-X	I.C.(M)	TOSHIBA	
D901	SLM-13VWF-X	L.E.D.		
D902	SLM-13VWF-X	L.E.D.		
D903	SLM-13VWF-X	L.E.D.		
D904	SLM-13VWF-X	L.E.D.		
D905	SLM-13VWF-X	L.E.D.		
D906	DAN202U-X	DIODE	ROHM	
R901	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R902	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R903	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R904	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R905	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R906	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R907	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R908	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R909	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R910	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R911	NRSA63J-224X	M.G.RESISTOR	220k	1/16W
R912	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R913	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R914	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R915	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R916	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R917	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R918	NRSA63J-334X	M.G.RESISTOR	330k	1/16W
C901	NBE21EM-105X	TAN.CAPACITOR	1	25V
C902	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C903	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C904	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C905	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
L901	NQL114K-100X	COIL	10uH	
S901	PGZ01249	TACT SWITCH	STOP	
S902	PGZ01249	TACT SWITCH	REW	
S903	PGZ01249	TACT SWITCH	FF	
S904	PGZ01249	TACT SWITCH	PLAY	
S905	PGZ01249	TACT SWITCH	EJECT	
S906	NSW0052-001X	PUSH SW	OPERATE	
CN901	PGZ01932-010Z	CONNECTOR	10PIN	

6.8 LI-BATT BOARD ASSEMBLY PARTS LIST [08]

SLK2048-03-00B [08]

Symbol No.	Part No.	Part Name	Description
CN801	SSV2637-L02	CONNECTOR	2PIN
CN802	YQ44289-1-1	CONNECTOR	1PIN
CN803	YQ44288-1-1	CONNECTOR	1PIN

6.9 IO JUNCTION BOARD ASSEMBLY PARTS LIST [1][0]

SLK1048-01-00C [1][0]

Symbol No.	Part No.	Part Name	Description
D301	EA60QC04	DIODE	NIHON INTER
D302	RD9.1EW-T1	ZENER DIODE	NEC
D303	RD9.1EW-T1	ZENER DIODE	NEC
D304	RD9.1EW-T1	ZENER DIODE	NEC
LD301	SLR-55VC3F	LED	
LH301	PQ43191	LED HOLDER	FOR LD301
C301	QETB1EM-478	E.CAPACITOR	4700 25V
C306	QCZ0208-103	CER.CAPACITOR	0.01
C307	QCZ0208-103	CER.CAPACITOR	0.01
S301	QSW0452-001	SLIDE SW	AUD2 +48V
S302	QSW0452-001	SLIDE SW	TALLY ON/OFF
S303	QSW0452-001	SLIDE SW	AUD1 +48V
CN301	PU60251-4	CONNECTOR	4PIN
CN302	SSV1790-S02	CONNECTOR	2PIN
CN303	PU59555-2	CONNECTOR	2PIN
CN304	SSV1790-S02	CONNECTOR	2PIN
CN305	PU59973-10	CONNECTOR	10PIN
CN306	PU59555-8	CONNECTOR	8PIN
CN307	SSV1209-S02	CONNECTOR	2PIN
CN308	PU59555-2	CONNECTOR	2PIN
CN309	PU59555-2	CONNECTOR	2PIN
CN310	PU59555-2	CONNECTOR	2PIN
⚠FC301	SSV2497-001Z	FUSE HOLDER	
⚠FC302	SSV2497-001Z	FUSE HOLDER	
⚠FC303	SSV2497-001Z	FUSE HOLDER	
⚠FC304	SSV2497-001Z	FUSE HOLDER	
⚠FC305	SSV2497-001Z	FUSE HOLDER	
⚠FC306	SSV2497-001Z	FUSE HOLDER	
⚠FC307	SSV2497-001Z	FUSE HOLDER	
⚠FC308	SSV2497-001Z	FUSE HOLDER	
JK301	QNS0036-001	3.5 JACK	3.5
JK302	QNS0037-001	3.5 JACK	3.5
TB	SQMX002-001Z	TERMINAL	TB301-B304

6.10 50P CONN. BOARD ASSEMBLY PARTS LIST [1][1]

SLK1048-02-00B [1][1]

Symbol No.	Part No.	Part Name	Description
D	RD9.1EW-T1	ZENER DIODE	NEC D201-D222
R201	QRE141J-102Y	CAR.RESISTOR	1k 1/4W
R202	QRE141J-103Y	CAR.RESISTOR	10k 1/4W
CN201	PU60566-120	CONNECTOR	20PIN
CN202	SCV1978-L08	CONNECTOR	8PIN
CN203	SSV1209-L02	CONNECTOR	2PIN
CN204	PGZ01759	CONNECTOR	50PIN
SPC	PRD30030-146	SPACER	

6.11 CONNECTOR BOARD ASSEMBLY PARTS LIST [1][2]

SLK1048-03-00B [1][2]

Symbol No.	Part No.	Part Name	Description
D101	RD9.1EW-T1	ZENER DIODE	NEC
D102	RD9.1EW-T1	ZENER DIODE	NEC
D103	RD9.1EW-T1	ZENER DIODE	NEC
D104	RD9.1EW-T1	ZENER DIODE	NEC
D105	RD9.1EW-T1	ZENER DIODE	NEC
VR101	QVQ0029-B53	VAL.RESISTOR	5k TRACKING
CN101	PU60566-108	CONNECTOR	8PIN
CN102	PU59555-103	CONNECTOR	3PIN
JK101	SCV2798-001	2P RCA JACK	
JK102	PGZ02430	BNC JACK	

6.12 POWER SW BOARD ASSEMBLY PARTS LIST [1][3]

SLK1048-04-00A [1][3]

Symbol No.	Part No.	Part Name	Description
S401	PGZ00597	SWITCH	POWER SWITCH
BKT	PRD44891	BRACKET	FOR POWER SW
CN401	SSV1790-S02	CONNECTOR	2PIN
CN402	SCV1978-L07	CONNECTOR	7PIN
TP	PU54983	TEST POINT	TP401-TP406

6.13 DC OUT BOARD ASSEMBLY PARTS LIST [1][4]

SLK1048-05-00B [1][4]

Symbol No.	Part No.	Part Name	Description

6.14 MECHA. I/F BOARD ASSEMBLY PARTS LIST [1][5]

SLK2045-01B [1][5]

Symbol No.	Part No.	Part Name	Description
CN1	SCV2596-030W	CONNECTOR	30PIN
CN2	SCV1770-003	CONNECTOR	3PIN
CN3	SSV2637-L02	CONNECTOR	2PIN
CN4	SSV2637-L03	CONNECTOR	3PIN
CN5	SSV2637-L03	CONNECTOR	3PIN
CN6	SSV2637-L04	CONNECTOR	4PIN
CN7	SCV1770-003	CONNECTOR	3PIN
CN8	SSV2637-L02	CONNECTOR	2PIN
CN9	SSV2637-L05	CONNECTOR	5PIN
CN10	SCV1770-004	CONNECTOR	4PIN
CN11	SCV1770-002	CONNECTOR	2PIN
CN12	SSV2637-L02	CONNECTOR	2PIN

6.15 DRUM MDA BOARD ASSEMBLY PARTS LIST [16]

SLK2036-00A [16]

Symbol No.	Part No.	Part Name	Description	
IC1	BA10393F-X	I.C.(M)	ROHM	
IC2	BA10358F-X	I.C.(M)	ROHM	
IC3	BA6441FP-X	I.C.(M)	ROHM	
Q1	2SC4081/QRS/-X	TRANSISTOR	ROHM	
Q2	2SA1576A/QRS/-X	TRANSISTOR	ROHM	
D2	MA3020-X	ZENER DIODE	MATSUSHITA	
R1	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R2	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R3	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R4	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R5	NRSA63J-563X	M.G.RESISTOR	56k	1/16W
R6	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R7	NRSA63J-474X	M.G.RESISTOR	470k	1/16W
R9	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R10	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R11	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R12	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R13	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R14	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R15	NRSA63J-563X	M.G.RESISTOR	56k	1/16W
R16	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R17	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R18	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R19	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R20	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R21	NRS144J-R68X	M.G.RESISTOR	0.68	1/4W
R22	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R23	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R24	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R25	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R26	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R27	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R28	NRS144J-R68X	M.G.RESISTOR	0.68	1/4W
C1	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C4	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C5	NEH71EM-476X	E.CAPACITOR	47	25V
C6	NCB31EK-223X	CER.CAPACITOR	0.022	25V
C7	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C8	NCF31EZ-473X	CER.CAPACITOR	0.047	25V
C9	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C10	NCS31HJ-471X	CER.CAPACITOR	470p	50V
C11	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C12	NBE41CM-106X	TAN.CAPACITOR	10	16V
C13	NBE21EM-105X	TAN.CAPACITOR	1	25V
C14	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C15	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C16	NEN21HM-224X	N.P.CAPACITOR	0.22	50V
C17	NEN21HM-224X	N.P.CAPACITOR	0.22	50V
C18	NEN21HM-224X	N.P.CAPACITOR	0.22	50V
C19	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C20	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
C21	NCF31CZ-104X	CER.CAPACITOR	0.1	16V
L1	NQL124J-470X	COIL	47uH	
CN1	PGZ01932-010Z	CONNECTOR	10PIN	
CN2	PGZ01932-015Z	CONNECTOR	15PIN	
K1	PGZ00627Z	FERRATE BEADS		
K2	PGZ00627Z	FERRATE BEADS		
K3	PGZ00627Z	FERRATE BEADS		

6.16 A/C HEAD BOARD ASSEMBLY PARTS LIST [17]

SLK2046-05-00B [17]

Symbol No.	Part No.	Part Name	Description
CN501	SCV1978-L10	CONNECTOR	10PIN

6.17 MODE SENSE BOARD ASSEMBLY PARTS LIST [18]

SLK2046-01-00B [18]

Symbol No.	Part No.	Part Name	Description
CN401	SCV1978-S05	CONNECTOR	5PIN

6.18 AL SENSE BOARD ASSEMBLY PARTS LIST [19]

SLK2046-02-00B [19]

Symbol No.	Part No.	Part Name	Description
PC101	ON1023	PHOTO COUPLER	
CN101	SCV1978-L03	CONNECTOR	3PIN

6.19 TU REEL FG BOARD ASSEMBLY PARTS LIST [20]

SLK2046-03-00B [20]

Symbol No.	Part No.	Part Name	Description
PC201	TLP853	PHOTO COUPLER	TOSHIBA
CN201	SCV1978-L03	CONNECTOR	3PIN

6.20 SP REEL FG BOARD ASSEMBLY PARTS LIST 21

SLK2046-04-00B 21□□□□□□□

Symbol No.	Part No.	Part Name	Description
PC301	TLP853	PHOTO COUPLER	TOSHIBA
CN301	SCV1978-L03	CONNECTOR	3PIN

6.21 BEGIN SENSE BOARD ASSEMBLY PARTS LIST 22

SLK2047-01-00A 22□□□□□□□

Symbol No.	Part No.	Part Name	Description
Q101	PN268-NC/P1/	TRANSISTOR	MATSUSHITA
CN101	SCV1978-L03	CONNECTOR	3PIN

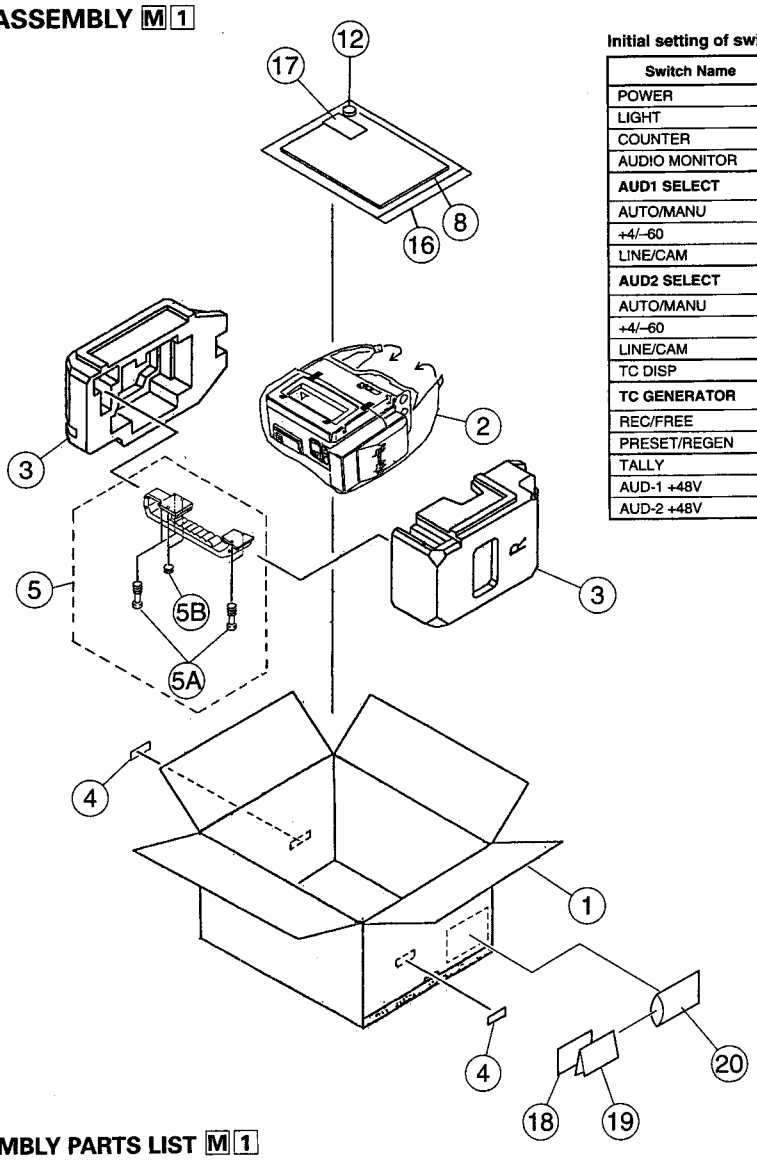
6.22 END SENSE BOARD ASSEMBLY PARTS LIST 23

SLK2047-02-00A 23□□□□□□□

Symbol No.	Part No.	Part Name	Description
Q201	PN268-NC/P1/	TRANSISTOR	MATSUSHITA
CN201	SCV1978-L03	CONNECTOR	3PIN

SECTION 7
PACKING

7.1 PACKING ASSEMBLY M1



Initial setting of switches

Switch Name	Initial setting
POWER	OFF
LIGHT	ON
COUNTER	TC
AUDIO MONITOR	MIX
AUD1 SELECT	
AUTO/MANU	AUTO
+4/–60	+4
LINE/CAM	CAM
AUD2 SELECT	
AUTO/MANU	AUTO
+4/–60	+4
LINE/CAM	CAM
TC DISP	TC
TC GENERATOR	
REC/FREE	REC
PRESET/REGEN	PRESET
TALLY	OFF
AUD-1 +48V	OFF
AUD-2 +48V	OFF

PACKING ASSEMBLY PARTS LIST M1

M1MM□□□□

Symbol No.	Part No.	Part Name	Description
1	–	CARTON BOX	
2	–	PLASTIC BAG	
3	–	CUSHION	
4	–	BLANK LABEL	
5	PGS30196A-02	HANDLE ASSEMBLY	
5A	SC43390-001	SCREW	
5B	SC45291	CAP	
⚠ 8	SL96071	INSTRUCTIONS	(E)
⚠	SL96070	INSTRUCTIONS	(U)
12	–	LI BATTERY	CR2032 or equivalent
16	–	PLASTIC BAG	
17	–	SAFETY GUIDE	
18	–	SERVICE INFORMATION CARD	
19	–	WARANTY CARD	
20	–	PLASTIC BAG	